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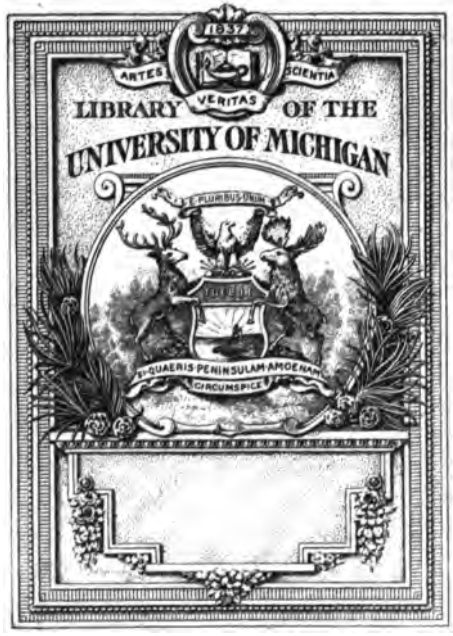
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THE PATHOLOGICAL TRANSACTIONS OF THE CHICAGO MEDICAL SOCIETY.

EDITED BY DR. I. N. DANFORTH.

I.

SOME OBSERVATIONS ON THE CLINICAL AND PATHOLOGICAL DISTINCTIONS BETWEEN PHTHISIS AND TUBERCULOSIS. BY DR. WM. T. BELFIELD, House Surgeon, Cook County Hospital.

That phthisis and tuberculosis are clinically and pathologically distinct, receives general assent, if I mistake not, in Germany. In France, the recent investigations of Charcot, though not yet confirmed, have, by the sheer weight of that illustrious name, shaken the Gallic faith in the same creed. In the United States the great majority of native-born professional men reject the duality of the diseases. It is my purpose in this paper, not to discuss one or the other theory, but simply to present some observations made in the wards of the County Hospital, which seem to me to argue duality in both clinical history and pathology.

I present, first, cases of acute tuberculosis, which embody four facts of interest:

1*st*. That the constitutional symptoms, which indicate grave disturbance, are disproportionate to the physical signs, which, alone, would suggest a trifling lesion.

2*nd*. That the accompanying fever is of the continued type, the thermometer showing but little variation, morning or evening.

3*rd*. That the tuberculosis follows, at a greater or less interval, a local inflammation, whose products have undergone degenerative changes.

4*th*. That the characteristic lesion is the production of a neoplasm without, necessarily, subsequent disintegration of the lung tissue.

CASE I.—Frank B., aged 24, a German carpenter, was admitted to the hospital March 12, 1877. He was greatly emaciated and very feeble; exhibited a marked febrile action — pulse 120, temperature 104, respiration 52. There was marked dyspnœa and cyanosis, the blueness being very evident even under the nails; he had a constant cough and profuse whitish expectoration. So precious was his scanty breath, that he could scarcely tell us the following history.

There was no record of consumption in his family. His own health had been excellent until March, 1876, when he began to suffer from loss of appetite and great pain in the abdomen. In a few weeks there appeared several tumors, which could be plainly felt in the umbilical region. During the summer of 1876 he regained fair health, though the tumors never decreased in size. His health remained good until about January 1, 1877, when it declined; had pain in his chest; cough; expectoration of white, frothy sputum; shortness of breath; fever; began to lose flesh and strength. His illness, while steadily increasing, had been especially aggravated during the three weeks prior to admission.

On physical examination, we found the form and movements of the chest and the percussion resonance normal; exaggerated breathing, dry and moist râles over the entire chest. There was nowhere any evidence of pulmonary consolidation.

During his stay in the hospital, the prominent features of his

case remained unchanged. His pulse, temperature and respirations showed but slight variation—morning or evening. The extreme dyspnœa and cyanosis persisted until death, which occurred two days after admission.

An examination was made ten hours after death. The two layers of pleura were adherent throughout. Each lung was thickly studded with miliary tubercles, evenly disseminated from apex to base. There was nowhere any sign of recent or ancient consolidation or destruction of lung-tissue. Many of the mesenteric glands were much enlarged and caseous. One aggregation of them constituted a tumor as large as an orange, and there were several smaller tumors of similar composition. The other organs appeared normal.

CASE II.—J. K., an English carpenter, aged 52, was admitted August 20, 1877, and gave the following history: Had no hereditary taint; had always enjoyed excellent health. On the 20th of April last he had suffered a thorough drenching. Next day he had a chilly feeling, fever, slight cough and sharp pain in left side. In a couple of weeks, however, his symptoms subsided, though he still remained weak. This was his condition until four weeks before admission, when he became feverish and short of breath; his general health declined, and he took to his bed, thinking that he was suffering from asthma.

On admission, he was quite emaciated, and presented the usual symptoms of a febrile condition; pulse 136; temperature 102 (evening); respirations 48. Found evidences of large effusion into left pleural sac, and compression of left lung; exaggerated breathing on the right side. On the next day (August 21) 60 ounces of straw-colored liquid were withdrawn by means of the aspirator. Patient at once expressed great relief; his respirations fell from 48 to 16 per minute; his temperature next morning was only 99½°. On August 23, however, his pulse was 126, temperature 103, respirations 26, and he was suffering considerable dyspnœa. Notwithstanding the free use of stimulants, he steadily failed, and died August 29. During the four days preceding his death, his pulse ranged from 112 to 140, his respirations from 26 to 34; his temperature averaged in the morning 103½°, in the evening 101°.

An examination was made 12 hours after death. The left lung was found crowded into the upper fourth of the left thorax; the lower three-fourths of the cavity was converted into a shut sac by means of a pseudo-membranous exudate which lined the thoracic walls and was thence reflected on to the lower surface of the compressed lung above and on to the upper surface of the diaphragm below. Within this sac were about 40 ounces of pale liquid. Both lungs were thickly and uniformly studded with miliary tubercles. Other organs about normal.

CASE III.—Was mentioned by Dr. Meyer in the CHICAGO MEDICAL JOURNAL AND EXAMINER for April, 1877.

E. L., a Norwegian silversmith, about 26 years old, was admitted December 16, 1876. A few days before his death, the patient, while delirious, destroyed the record of his case. Hence only the general facts of his history can be given.

He had pleurisy some months previously, and, on admission, his right chest presented the physical signs of hydrothorax and of firm pleuritic adhesions. Yet his symptoms indicated more lesions than were accounted for by the physical signs; he had rapid breathing, dyspnœa, cyanosis and pain in the chest. Early in January he became delirious, his delirium presenting a quiet and even melancholy, rather than a violent aspect. During five weeks his symptoms were gradually aggravated, but his physical signs showed little change. Death occurred February 17, 1877.

An examination, made six hours post mortem, showed about three quarts of light yellow liquid in the right pleural sac; the pleura was much thickened and presented several strong bands of adhesion. The right lung was compressed to about one-third its normal size, and thickly studded, from apex to base, with miliary tubercles; there was a small cavity in its apex.

On the left side, the two layers of pleura were adherent throughout; the left lung also was completely filled with miliary tubercles; there were no signs of consolidation in either lung. The membranes of the brain were greatly congested; there was a slight serous effusion into the ventricles. There was also found a deposit of semi-transparent, grey tubercles along the course of the vessels, especially on the convex surface of the hemispheres; a similar deposit, slight in amount, at the base; vascular turgescence of the cerebral tissues.

CASE IV.—Mary N., an Irish domestic, aged 50, was admitted May 23, 1877. Her health had been generally good, though for 20 years she had been much addicted to drink. Three months previous to admission, her abdomen had begun to swell, and had steadily increased in size; it had been the seat of considerable pain and tenderness. Her health had gradually failed. During her two months' sojourn in the hospital, she was tapped three times; the liver dullness was found to be less extensive than in health.

An examination made eight hours after death showed between the two layers on the right side firm adhesions which had undergone calcareous degeneration over a considerable space. The peritoneum was thickly and uniformly studded throughout with miliary tubercles; there were many adhesions among the folds of intestine. The liver was very small and very tough.

I present next three cases of acute phthisis, exemplifying four points of interest and of distinction from those just related:

1*st.* That the constitutional symptoms and physical signs accord in indicating the gravity of the affection.

2*nd.* That the accompanying fever is of a *remittent* type, with marked rise of temperature in the evening.

3*rd.* That the disease cannot be constantly nor uniformly associated with a pre-existing lesion.

4*th.* That the characteristic lesion is disintegration of lung-tissue.

CASE V.—J. B., a colored cook, 36 years of age, entered the hospital September 18, 1877. His health had been uniformly excellent, except that since February last he had had almost continuously a slight cough and expectoration. In April he was treated in the hospital for intermittent fever. At this time his lung sounds were found to be normal.

Ten days before admission his usually slight cough became suddenly much aggravated; he became very short of breath; had severe pain in the left side.

On admission he was well nourished; exhibited a high febrile action; pulse 116; temperature 103¾; respirations 32. The physical signs were dullness, bronchial breathing, and bronchophony—plainly indicating complete solidification of the upper lobe

of the left lung. For several days the disease presented the usual symptoms of pneumonia, except that at no time was the sputum observed to be rusty. Yet resolution did not occur at the usual time; the temperature remained high, and on September 28 the discovery of elastic fibres in the sputum and of cracked-pot resonance and cavernous breathing, announced the disintegration of the lung.

Since that time he has grown gradually but certainly weaker; the physical signs indicate a progressive destruction of lung-tissue. His temperature has shown the characteristic diurnal variation of acute phthisis — averaging in the morning 99.9°, in the evening 103.1° — an average rise of 3.2° Fahrenheit.

CASE VI.—J. G., an Irish laborer, aged 26 years, was admitted August 15, 1877. There was no record of consumption in his family. His own health had been excellent until January, 1877, when he took a severe cold, and subsequently suffered, for several months, from constant cough with yellowish or whitish expectoration. Had been working steadily during the spring and summer.

A few days before admission he had pain in his left side, and became quite feverish. We found him poorly-nourished and exhibiting a febrile action — pulse 120; temperature 101¾; respirations 48. Over the upper lobe of the left lung were found some loss of motion; slight dullness; broncho-vesicular breathing and crepitant râles.

During the next ten days he presented most of the signs of croupous pneumonia; his pulse ranged from 96 to 144; his temperature from 101¼ to 103½; his respirations averaged about 52. (On the 18th, the breathing had become intensely bronchial; on the 19th, moist râles were audible; on the 20th, the sputum was first observed to be of rusty color.) During the next two weeks the patient presented not the usual signs of resolving pneumonia, but continued dullness and bronchial breathing; moist râles, increasing in size and number; a temperature averaging over 101°; respirations about 45. On September 18, cavernous breathing and cracked-pot resonance were heard below the left clavicle; and on the same day the destruction of lung-tissue was confirmed by the discovery of elastic fibres in the sputum.

From that time his general condition grew gradually worse; the physical signs indicated a progressive destruction of the lung, soon including the other lung also.

His morning temperature averaged 99.6°, his evening temperature 101.3°, an average evening increase of 1.7°.

On October 6th patient left the hospital by his own desire.

CASE VII.—Geo. W., an American merchant, aged 27, was admitted Oct. 17, 1877. There is no record of consumption or other hereditary disease in his family history. His own health has been excellent; he never had any lung trouble, nor even an obstinate cough, until July, 1877; at that time he took cold, and for three weeks had a violent cough and profuse whitish expectoration. These subsided in August. On September 1, he took cold again, while on a lake steamer; had a violent cough; his sputum was profuse and yellow, and often contained a little blood; had frequent chills; cold sweats every night; lost flesh very rapidly, his weight having been reduced from 172 to 135 pounds in five weeks.

On admission, patient was much emaciated; temperature, 103¼; found complete solidification of upper lobe of right lung, except just below second rib, where there was a large cavity. His subsequent history has been that of advanced consumption. A noticeable feature is the marked evening rise of temperature. The average morning temperature from the 17th to the 31st of October, inclusive, was 99.3°; the evening temperature during the same time averaged 103.8°, an average rise of 4.5° F.

These cases are examples of the fact that acute pulmonary tuberculosis is distinct in clinical history and pathology from acute pulmonary phthisis.

Clinically, we observe, first, that in acute tuberculosis there is disproportion, in acute phthisis harmony, between the indications furnished by the constitutional symptoms and those suggested by the physical signs.

Second, that in tuberculosis the fever is of the continued type, the temperature being, if not uniform, higher in the morning, and *always* above the normal.

Pathologically, we note in tuberculosis the pre-existence of an inflammatory product in a state of degeneration; while in phthisis

the inflammation originates *de novo*, by some impression made upon the system from without.

Second, that in tuberculosis the inflammatory process does not, while in phthisis it does, necessarily result in destruction of the pulmonary structure.

In the cases of tuberculosis presented, the degenerated inflammatory products were located either in the mesentery or in the pleural sac. Yet metamorphosed products of inflammation are found in neither of these localities nearly so frequently as in the air-cells of the lungs. It is estimated that one death in six, the world over, is caused by consumption, in the broadest sense of that term. It is further computed that in four-fifths of these cases the initial lesion was a catarrh, either of the bronchi or of the lungs — that is, was an idiopathic inflammation ; and it is the caseous degeneration and disintegration of the inflammatory products of this catarrh that constitute the consumption. Hence, one individual in eight, on the average, has caseous masses in his lungs, sooner or later in his lifetime. Therefore we would expect, *a priori*, that a large majority of the observed cases of tuberculosis proper would occur in phthisical patients. The converse of this proposition would also seem reasonable — namely, that the caseous masses in phthisical lungs frequently give rise to the infection which is manifested in tuberculosis. Now the truth of both these presumptions is familiar to all who have witnessed many *post mortem* examinations. It is the exception, rather than the rule, to find no miliary tubercles in the lungs of persons dead from consumption. True, some of these miliary tubercles may be found undergoing cheesy metamorphosis, and it may be impossible to say just how much of the cheesy matter found in the lung is degenerated epithelium, and how much is degenerated tubercle ; indeed the whole confusion about pulmonary tubercle seems to have resulted from the supposition that *all* cheesy matter found in the lungs was transformed miliary tubercle, by which supposition the products of pulmonary inflammation were completely ignored. Certain it is, however, that pulmonary inflammation does result in cheesy products ; also that in certain cases of consumption, cavities and cheesy masses are found, but no evidence of miliary tubercles.

Now, Niemeyer states that in consumption proper—that is, chronic pneumonia with degeneration of inflammatory products and disintegration of lung-tissue—the thermometer shows an average daily variation of from 1½° to 2°—very seldom less, frequently much more; but that when in consequence of the absorption of inflammatory products, tuberculosis has supervened upon the phthisis, the fever changes from an intermittent or remittent to a continued type. I have made some observations on this point, as follows:

In the early part of August, I selected seven patients in the third stage of consumption. With considerable care I took their temperatures, morning and evening. These observations were made between 8 and 9:30 o'clock a. m.—between 6:30 and 7:30 p. m. The same thermometer was used in all the cases, and was uniformly placed under the tongue.

CASE I.—Hans J., a Norwegian barber. The average of twenty-two consecutive morning observations—Aug. 24 to Sept. 14, both included—was 99.5°; of nineteen consecutive evening observations, 100.24°; making an average diurnal rise of .74°.

The post mortem examination showed a cavity at either apex, surrounded by considerable cheesy consolidation; also a very thick dissemination of miliary tubercles through both lungs, most numerous near the apices, but scattered thickly even to the bases.

CASE II.—Wm. McD., an Irish porter, aged 38 years. The average of twenty-six consecutive morning temperatures—Aug. 24 to Sept. 18, both included—was 99.7°; of twenty-five evening temperatures, 100.6°; giving an average evening rise of .9° F.

The lungs were found to contain each a small cavity at the apex; also considerable cheesy matter in the upper part, and extensive deposits of miliary tubercle throughout.

CASE III.—Jas. S., an English carpenter, 26 years old. The average of thirty-one observations was 100.7° for the morning, and 101.8° for the evening temperature—an average evening rise of 1.1°.

The lungs showed two cavities, cheesy masses, and a considerable sprinkling of miliary tubercles, less than in either of the other cases.

CASE IV.—Lizzie L., an American servant girl, 19 years old.

The average morning temperature from Oct. 4th to 25th, was 100.66° ; the evening. 101.02° : making an average rise of .36°.

The lungs contained not only cavities, but an abundance of miliary tubercles.

CASE V.—Nils N., a Swedish laborer, 52 years of age. Owing to multiplicity of duties, I took the temperature for only five days. The temperature averaged in the morning 100.06° ; in the evening, 100.87° ; an average evening rise of .81°.

An examination showed an immense cavity in one lung, a small one in the other—both lungs thickly studded with miliary tubercles.

CASE VI.—John B., an Irish tailor. The average of twenty-six morning observations—Aug. 24 to Sept. 18, both included—was 100.13° ; evening, 101.08° ; an average rise of .95°. In this case the ends of science were defeated by the vigilance of friends, who removed the body before an examination was made.

In these cases we observe that the fever was of a continued form—the diurnal variation in five of the six cases being less than one degree—and that the lungs contained miliary tubercles as well as cheesy masses. In my—

CASE VII.—That of John F., an American butcher, the average morning temperature from Aug. 24 to Sept. 18 was 99.16° ; evening, 101.74° ; an average rise of 2.58°. His lungs contained cavities and cheesy masses varying in size from a hazel to a walnut, scattered through the organ, *but no miliary tubercles.* In this case the fever was markedly remittent, and the miliary tubercles were absent.

These are the only cases which I am at present able to present from personal observation. In looking over the records of the hospital, however, I observed that in July last the temperature had been recorded, morning and evening, for seven days, in a case of consumption, by the then House Physician, Dr. Roswell Park. Upon inquiry, I learned that the Doctor had conceived the same idea as myself, but had carried it into execution only in this one case, which he has kindly permitted me to report.

The average morning temperature was 97.9° ; evening, 100.1° ; an average diurnal rise of 2.2°. There was noted at the autopsy

an abundance of cheesy masses, but no miliary tubercles—another case of remittent, or rather intermittent, fever without tubercles.

Now, these observations seem to be in accord, so far as they go, with Niemeyer's ideas regarding the significance of temperature in consumption. So far as I could perceive, the thermometer afforded the only means of ascertaining the supervention of tuberculosis upon phthisis. I examined carefully the sputum, as well as the physical signs afforded by the patients referred to. Nowhere could I detect any marked or constant difference between the simple and tuberculous consumptive. And this seems rational; for *all* had consumption—that is, consolidation and disintegration of the lungs, and, as a consequence, all furnished the signs of solidification and excavation. It is true that the respirations vary somewhat; that is, of two patients presenting the same physical signs—that one having a continued fever breathes more frequently than the other with remittent fever. This is well illustrated by two patients at present under observation. Both are American girls, one 18, the other 19 years old. Each has a large cavity at the left apex, with extensive solidification around it, as well as at the other apex. One who has a remittent fever, the daily variation averaging 2½°, breathes twenty-eight times per minute; the other, with a continued fever (daily variation only one-third of one degree), breathes forty-three times per minute—a majority of fifteen respirations per minute in favor of continued fever. I have observed a similar disparity in other cases. But as the frequency of respiration is modified by several influences, it is of but little value as a diagnostic sign.

Now if these ideas be well grounded, their practical value is manifest. Although some patients die of pure inflammatory consumption, such cases are in the minority; the majority present the miliary tubercles in addition to the cheesy masses. Now the tuberculosis usually supervenes, according to the authorities, after consolidation of the lung is evident, and it is the cheesy masses forming this consolidation which constitute the foci of infection whence proceeds the tuberculosis. As Niemeyer tersely states it, "The greatest danger for the majority of

consumptives is that they are apt to become tuberculous." In other words, a simple consolidation of the lung, however extensive, nay, even a certain amount of disintegration and excavation, is not necessarily fatal.

Read Nov. 19, 1877.

II.

Mechanical Injuries of the Globe—With Numerous Pathological Specimens.

By Dr. E. L. Holmes.

(Presented to the Chicago Medical Society.)

Some weeks since, I placed before this society several specimens illustrating the effects of diseases, which almost always necessitate the removal of the globe.

I now present 28 specimens showing the changes which take place in the globe after certain injuries, and which render the removal of the eye necessary, either to relieve pain or to prevent loss of sight in the other eye.

Although the question regarding the propriety of removing the globe can seldom give rise to doubts in the minds of an experienced practitioner, there are rare instances when the exercise of the most deliberate and wise judgment is requisite.

In general terms, it may be stated that the injuries which most frequently necessitate the removal of the globe are: 1st, foreign bodies within the intraocular tissues; 2d, concussions; and 3d, incisions, especially near the ciliary region.

In general terms, it may also be stated, that an eye should be extirpated, whenever, after an injury, the inflammation, especially of the iris and choroid fails to improve after a reasonable time, and there continues a tenderness on gentle pressure near the corneal border, with loss of vision.

Foreign bodies in the globe.—Of the specimens before you, 13 represent cases in which foreign bodies were lodged within the globe. In three of these cases, pus had formed in the vitreous humor, after a period varying from three days to three weeks. In four cases there was atrophy of all the ocular tissues, so that

the sclerotic was deeply fissured in the region of the four recti muscles, and firmly contracted upon quite a hard mass of atrophied vitreous, choroid and retina. In six cases you perceive excellent examples of every stage of detachment of the retina; in some the retina resembles an umbrella partially closed; in two cases it has been pressed into the central portion of the globe, presenting the appearance of a cord passing from the optic nerve to the anterior part of the eye. (See Fig. 5.)

Fig. 5, a section of the eyeball, showing the "corded retina," from the effects of a foreign body.

a. The retina, folded into a dense round cord, by exudation between it and the choroid.

b. The position of the condensed and degenerated vitreous humor.

c. The foreign body (a small bird shot).

d. The choroid.

The substances which caused the destructive inflammation in these specimens, are fragments of steel, lead, percussion caps, and of wood. In none of the cases could their position be determined by a careful inspection with the ophthalmoscope, since the products of inflammation or hemorrhage concealed them.

It is worthy of remark that it is a most difficult manœuvre to remove a foreign substance from the vitreous humor, even when it can be seen through the pupil.

In three of these cases the patients had already lost the vision of the uninjured eye by sympathetic inflammation at the time of the extirpation.

Concussions.—In eight cases the globe was extirpated on account of injuries received by blows.

In two cases there is very great atrophy of all the tissues of the globe, with quite a large mass of calcareous deposit in place of the choroid.

In six others the globe has retained its normal size, but is characterized by total liquefaction of the vitreous. One case is especially worthy of notice, on account of the very hard coagulum between the sclerotic and choroid, which almost absolutely fills the whole globe, the retina and choroid being crowded to the

opposite side. The patient had been in great pain for three months after receiving the blow.

Incisions and Punctures.—Of the twenty-eight specimens, eight illustrate the effects of this class of injuries. Almost without exception the wounds were quite large, and involved the ciliary region. They present considerable variety in the condition of the intra-ocular tissues; some are filled with a serous fluid, surrounded with a very thin choroid and retina, the iris being in contact with the cornea, and the ciliary bodies much attenuated. Others are less than normal in size, the internal membranes being thickened and indurated. In one specimen there is a remarkable thickness of the choroid and retina, each measuring nearly a sixteenth of an inch.

Two of these patients came under my care blind also in the uninjured eye from sympathetic inflammation.

As a rule of great practical importance, I repeat, that an eye which has been injured in any of the ways above mentioned, should be extirpated when vision has been destroyed, on account of irido-choroiditis, and, in spite of all treatment, the globe remains persistently tender on pressure over the anterior portion of the sclerotic.

I think I can except those cases, not numerous, however, in which, very early after the injury there is extensive suppuration of all the tissues of the globe, as indicated by great pain and extensive œdema of the ocular conjunctiva and of the lids. In these cases relief is secured by making an incision through the walls of the globe from the internal to the external angle of the palpebral fissure, and evacuating all the intra-ocular contents, including the choroid and retina. An artificial eye can be worn over the small "stump" somewhat more comfortably than when the whole globe is removed.

III.

Case of Abscess of Spleen, with Perforation of Large Intestine.

By Dr. Geo. E. Brown,

(Resident Physician at St. Luke's Hospital.)

Mrs. F., æt. 31.—Her father died from phthisis pulmonalis. When she was 12 years old had typhoid fever, as was supposed, since which time she had had an icteric hue of the complexion, and almost a constant pain in the region of the spleen, aggravated at times.

Came to this country four years ago, and had recurring chills since then, regarding which not enough could be learned to enable us to say positively that they were malarial, though, at first, as nearly as could be learned, the chills recurred every second day, but when she came under our observation, Sept. 27th last, they obeyed no such regularity.

Last winter she was troubled with cough, and was thought to be the subject of phthisis.

Last June she gave birth to her first child, having been married but about one year; the placenta was retained four days, and then taken away piece-meal, after considerable loss of blood.

For two months after this she was very low, but, recuperating to some extent, her friends thought it advisable to remove her to St. Luke's, where she could be under constant medical attendance. When she was admitted to the hospital she had a peculiar yellowish cachectic appearance of the countenance; was extremely emaciated and anæmic.

Treatment, for a time, seemed to benefit her; then she grew worse, having irregularly recurring chills, constant though moderate pyrexia, and profuse nocturnal perspirations.

Oct. 3rd, had four severe hemorrhages from the bowels, coincidently with which the enlargement of the spleen—which I neglected to mention in the proper place—subsided. Unaccountable as it was, she was better after the hemorrhages, and began to improve. However, the improvement was only temporary.

In a few days profuse fluid or semi-fluid discharge from the bowels came on, when was discovered, for the first time, the fact that these evacuations were largely made up of *pus*.

The true nature of the case did not even then dawn upon us; indeed it did not until our ocular sense revealed it to us at the post-mortem examination. The patient rapidly sank, and died Oct. 15th.

The following is a synopsis of the post-mortem:

Extensive pleuritic adhesions over left lung, pleura thickened, and pleural cavity half full of dirty, yellowish-looking fluid; hypostatic congestion of the lower lobe of right lung.

These thoracic troubles, it may be remarked, were entirely latent excepting a cough that she had *last winter*.

Abdominal cavity: Peritoneal adhesions over left side, binding the descending colon to the spleen; some inflammatory serum in cavity of peritoneum.

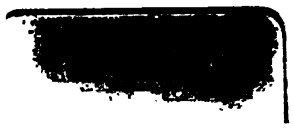
Spleen disorganized and the seat of large cavities, and disseminated smaller ones, filled with a darkish-gray, purulent, and extremely offensive material; cretaceous concretions in walls of cavities.

Descending colon adjacent to spleen perforated by ulceration, allowing a communication between the cavity in the spleen and the intestine.

Liver enlarged, and centers of portal lobules congested; ulceration of os uteri.

The ovaries were disorganized.

The explanation of various phenomena of this patient's illness is too manifest to require comment.



THE TREATMENT OF INFLAMMATION OF JOINTS BY PERMANENT EXTENSION.

By Nicholas Senn, M. D., Milwaukee.

[*Read before the Rock River Medical Society of Wisconsin.*]

Among the different methods of applying permanent extension I shall limit myself to that by the weight and pulley as the simplest, most practical and efficient. Like so many of the most important inventions in surgery, it is of comparatively recent introduction, possessing a short but eventful histoty, a history intimately associated with the names of the greatest surgeons of the last century. Sir Benjamin Brodie, whose vast experience, close observation and originality of thought so rapidly developed the resources of surgical appliances, first employed extension in the treatment of joint affections. Observing the frequency of spontaneous dislocation of the head of the femur after coxitis, it occurred to him that this formidable result might be avoided, if extension could be applied during the progress of the disease, and that thus spasmodic muscular contractions might be relieved. He applied extension by fastening a belt with buckle around the thigh above the condyles of the femur; to this belt the extension cord was tied which passed, with the weight, over a simple pulley at the foot of the bed. The necessary counter-extension was made by encircling the pelvis with a broad leather belt and fastening it to the opposite side of the bed with cords. Rude and imperfect as this method of application must have been, it yielded in his hands the desired results. Experience soon demonstrated that it not only prevented dislocation, for which it was originally intended, but it also removed pain, and modified the process of inflammation. Through his influence this new treatment was soon adopted by his contemporaries; but, on account of want of skill or the imperfection of the appliance, as taught by Brodie himself, it soon fell into disrepute. In 1854, it was presented as something entirely new by Gustav Ross, in a short article, published in the *Deutsche Klinik*, No. 9, 1854, entitled, "Ueber ein neues Behandlungsprincip der Gelenkent-

zündung." This time it was proposed as a substitute for the *brisement forcé*, as taught by Bonnet, for correcting deformities. *brisement forcé*, or rapid and forcible extension, was at that time advised during the progress of the inflammatory process. This heroic treatment could not fail to frequently produce disastrous results, which induced Ross to substitute for it the more rational means of gradual and permanent extension. He strongly urged its advantages in being applicable during the early stages of disease, and its influence in abating in place of aggravating the co-existing inflammation. In America, it found ready introduction through men like Wallace, Davis, Taylor, Pancoast, and Sayre. In Europe it has come into general use through the researches and untiring labors of Barwell, Volkmann, Langenbeck, and Hueter. There is at present, perhaps, no other surgical appliance in more general use over the entire world than permanent extension for the treatment of joint affections. While most surgeons resort to it both in hospital and private practice, there are a few exceptions, prominent among them Dr. Louis Bauer, formerly of New York, now of St. Louis. He believes that the only beneficial effect, if any, consists in fixation; that it acts as an additional irritant to the already irritated and contracted muscles, aggravating inflammation.

The accumulated experience of many reliable observers, however, has conclusively demonstrated that gradual extension—

(1) removes pain; (2) corrects deformity; (3) directly influences the course and result of inflammation.

Extension by weight and pulley has generally been applied to affections of the knee and hip joints, although it has been used with equal success in other parts of the body. Volkmann has used it extensively in Potts' disease of the spine. In this disease we have all witnessed the prompt disappearance of the excruciating pain after extension by some mechanical means sufficient to separate the inflamed surfaces of the bodies of the affected vertebræ. I have now under my care, at the Milwaukee Hospital, a little girl, suffering from a chronic inflammation of the shoulder joint, accompanied by a rotation of the humerus outward, who is rapidly improving after a few weeks of extension.

The mode of application is the following: The skin should

be shaved before applying the adhesive plaster, which should be fresh and spread on Canton flannel. Two strips, each sufficient in width to cover one-third of the circumference of the limb, should be applied to each side of the limb and extend from the inflamed joint to below the extremity of the limb, where it is fastened over a block of wood of sufficient length to prevent injurious pressure over the bony prominences of the joint. To the center of this block of wood a short cord is fastened, which runs over a pulley at a point corresponding to the axis of the limb, with the necessary weight attached. I am always in the habit of cutting the upper portions of the extension straps into several strips to secure a better hold, and to bandage the limb from the distal end to the joint affected, with a roller over which is applied flour paste to prevent it from slipping. The plaster should be applied evenly and smoothly, and the bony prominences, if necessary, protected by cotton. The pulleys should be large, with a deep groove. It often is convenient to use more than one pulley—one near the mattress, and the other on the top of the foot of the bed, or in the ceiling. The weight must vary according to the age of the patient, and the amount of muscular contraction to be overcome. It will vary from three to twenty pounds. The best substances to regulate the amount most accurately are sand and shot. As a rule, it is best to begin with a small weight and gradually increase it, until the desired effect, muscular relaxation, has been accomplished. When muscular action has ceased, it is well to diminish the weight. An important fact to remember is this: Always begin extension in the direction of the deformity. I am satisfied by personal observation, that this rule is not generally observed. Extension should, at once, diminish pain instead of increasing it, as will inevitably be the case if this rule be neglected. The very object of extension is to tire out the contracted muscles gradually, and not suddenly. If extension increase the suffering, it has not been properly applied, or the case is not one appropriate for its use. In acute affections of joints, contraction is one of the earliest symptoms. In acute coxitis we may find, at our first visit, the thigh contracted at a right angle to the pelvis. In such cases, the extension must be modified to meet the indications in each individual case. I gen-

erally proceed as follows: I have a double-inclined plane made, extending from the foot to the tuberosity of the ischium, the angle corresponding to that of the limb. The two planes are connected by hinges; the base consists of a board with notches, into which the lower plane fits, for the purpose of increasing or diminishing the angle of the planes. Two broad strips of adhesive plaster are now applied to the sides of the thigh, extending from the hip-joint to below the knee, where they are fastened over a block of wood, to which is applied the extension cord. The pulley is fastened into the ceiling at a point which corresponds to the axis of the femur. By bringing the lower plane into the lower notches, the angle can be gradually diminished until the limb is in a straight position—when extension in the usual manner can be applied. The double-inclined plane is not only convenient for the purpose of straightening the limb, but acts as a splint fulfilling another indication in the treatment of all inflamed joints, second in importance only to extension, viz., fixation. The inclined plane can be used with the same benefit and for the same purposes, if the extension is to be applied to the leg, in cases of inflammation of the knee-joint. Fixation and extension should always be combined. Extension alone is insufficient to insure the desired immobility of the joint, hence it is almost always necessary to call into requisition some additional means to accomplish this object. Besides the inclined planes, I have found leather splints of great value. In cases of hip disease, after the limb is brought nearly to a natural position, I take a piece of thick sole leather extending from the axilla to three inches below the foot. It must be sufficiently wide to cover one-half of the circumference of the body, thigh and leg. After it is thoroughly soaked in water, the inner surface is covered with one or two layers of cotton-batting, and the splint applied to the outer side of the limb. Care must be taken to mold it accurately to all of the irregularities of the surface. It is retained *in situ* by two or more roller bandages extending from foot to axilla. The bandages are thoroughly impregnated with rye-flour paste. During the time the splint is applied, the patient must be held in a horizontal position over a table, by several assistants, extension being made at the same time. After the splint is applied, the patient is placed in bed, and

extension by weight and pulley continued until the application becomes dry, which usually takes from one to two days. By cutting the bandages on the inner side of the leg and side of the body, introducing eyelets near the cut margins, the splint can be removed and accurately re-applied by lacing. This splint secures perfect fixation, and I prefer it to the more expensive wire-splint of Bauer. In cases of disease of the knee joint, extension can be combined with fixation by means of a posterior splint, with foot-board and movable joint at the knee. For extension at the ankle joint, a plaster-of-Paris shoe must be applied, into which the extension straps are incorporated. The equal pressure from this dressing produces results which surpass those when adhesive plaster is relied upon.

It is interesting to observe that while extension has been used with the best results throughout the whole civilized world, authorities differ in regard to its mode of action. Brodie used it to prevent dislocation; Ross to prevent deformity; to-day we attribute to it, in addition, direct antiphlogistic properties. Prof. Volkmann believes that the articular surfaces are separated by elongation of the ligaments, and so firm are his convictions in this respect that he terms this treatment "Distractionsmethode." Bardeleben, and most American surgeons, sustain his views. Prof. C. Hueter, on the other hand, asserts that its curative influence consists in an increase of intra-articular pressure and immobility. In regard to its effect on intra-articular pressure, Reyher's experiments on cadavers are conclusive. He found by injecting different joints that their greatest capacity was reached in the normal semiflexed physiological position. The capacity for fluid diminished by a deviation from this position. We find, in practice, that patients suffering from inflammation of joints uniformly assume this position. To test the effect of extension in affecting joint capacity, the same experimenter made an opening into the knee joint through the patella, inserting a glass tube, and filling the joint with water. He found the column of water in the tube lowest when the limb was semiflexed. Applying extension in the ordinary manner, the fluid in the tube rose; this effect he attributed to the compression of the joint by the traction of the skin over it. After division of the skin above the

joint by a circular cut, the column of water again diminished. Hueter repeated these experiments and corroborates their correctness. Experience at the bedside also confirms these statements. We frequently meet with cases of acute inflammation, attended by copious and rapid effusion, aggravated by extension, while the more chronic cases with relaxation of the structures of the joints are promptly benefitted by it. If it is thought desirable to make extension and avoid this increase of articular pressure, it is important to apply the plaster as far away from the affected joint as possible, and to include the bony prominences of the next distal joint.

When we reflect upon the unyielding character of the ligaments of the large joints, it becomes difficult to conceive how the articular surfaces can be parted by any justifiable amount of extension. This result undoubtedly can be obtained after the disappearance of a copious effusion with relaxation of the ligaments, or after the prolonged use of a heavy weight. It is doubtful whether such separation is ever necessary. The principal use of the weight consists in neutralizing the reflex muscular contractions of the flexor muscles, and in doing this it does not diminish intra-articular pressure, but the pressure between the articular surfaces. That this increased pressure produced by muscular contraction acts unfavorably upon the local process is shown by numerous specimens. The greatest distraction of tissue is uniformly found where the greatest amount of pressure had been exerted. It is also a well-known fact that in neglected cases of inflammation of joints that have existed for an indefinite time, recovery frequently takes place after removal of this pressure by spontaneous dislocation. Extension not only diminishes pressure directly, but, at the same time, by gradual straightening of the limb, changes the point of pressure. I apprehend that this constitutes an important factor in its mode of action.

The empirical use of extension has not only led to frequent disappointment, but has often been the cause of much unnecessary suffering. As with so many other valuable agents, it has been abused by its too indiscriminate employment. A rational use of it must be limited to certain well defined pathological con-

ditions. Volkmann and Langenbeck have used it with great success in the acute inflammation of joints following gunshot injuries. If these or any other traumatic injuries lead to disorganization of the cartilage or ends of the bones, its employment becomes of paramount importance for the safety of the joint. If, on the other hand, the disease is limited to the synovial membrane and ligaments of the joints, and the surgeon is called before decided contraction has taken place, fixation is preferable to extension. In catarrhal inflammation of joints it is useful as an orthopedic remedy, promoting, at the same time, absorption by moderate compression. The best results by extension have been obtained in cases where the disease involved the articular cartilages or the bone itself. These cases are always accompanied by painful muscular contraction, which promptly subsides after its use. Its power to remove pain was recognized by Brodie. Howard Marsh found in children suffering from hip disease, that after he removed the weight during sleep, they would soon become restless and awake with pain. The same effect is also observed if the weight be removed too soon, before all pain and tenderness have subsided. Great care, therefore, must be exercised not to remove the weight too early. I recollect two cases of hip disease where extension was continually applied for over six months. In one case suppuration took place; the abscess appeared on the anterior surface of the thigh below the joint; and fluctuation, which had been apparent for several months, gradually disappeared, and the limb became anchylosed in a good position. In the second case the weight was removed on two different occasions, but as the pain reappeared in a few days, it had to be re-applied. After eight months of treatment, recovery took place, with a good movable joint. In some cases of a strumous diathesis it may become necessary to substitute for the weight the portable apparatus for extension, as Davis', Taylor's, Andrew's, or Sayre's splint. After the acute symptoms have subsided, and the limb is in proper position, one of these splints may be applied during the day, and the patient permitted to be carried into the fresh air, and at night the extension by weight continued.

Extension by splints of any kind is insufficient in recent cases,

and can never take the place of the weight and pulley except as an auxiliary measure to complete the treatment.

We must, lastly, consider extension as an orthopedic agent. Employed for this purpose it is a rival to *brisement forcé*. The latter can judiciously be employed only after all inflammatory symptoms have been removed; extension, on the other hand, is one of the most valuable remedies to subdue inflammation, and consequently is applicable during the early stages of the disease. It not only corrects, but, what is still more important, prevents deformity. *Brisement forcé* can correct angular deformity only; it is perfectly useless in removing abduction or rotation. Extension, by gradually neutralizing muscular contraction and elongating ligaments, is not only a safer means for restoring the normal angle, but accomplishes at the same time the latter. In old contracted joints, the ligaments on the flexed side have frequently undergone such an amount of thickening and shortening that nothing short of rupture would permit a restoration to the normal position. If immediate and rapid extension be used, aside from the injury inflicted by such heroic treatment, a relapse is frequently inevitable from contraction of the cicatrix, resulting from healing of this subcutaneous wound. Gradual extension, however, causes no new injuries, but simply elongates the contracted tissues. For the application of extension to contractures of the muscles of the hip joint, I would refer to an article on this subject in my report to the State Medical Society, at its last session. In some obstinate cases of fibrous anchylosis it may be well to combine forcible with gradual extension.

There is one condition of the knee joint which positively contra-indicates the use of extension. I refer to partial dislocation of the tibia backwards, the result of a preceding gonitis. Whenever the head of the tibia has been displaced backwards, so that the anterior edge has passed the median line of the articular surface of the femur, the tibia is converted into a lever of the second kind, and the displacement is aggravated by extension.

I conclude by presenting the following propositions for consideration:

I. The weight and pulley constitute the best method for making permanent extension.

II. Extension should always be first made in the line of deformity.

III. Extension operates as an antiphlogistic and orthopædic agent, by removing muscular aud ligamentous contractions.

IV. Permanent extension is most useful in cases of joint affection where the cartilages or the ends of the bones are diseased.

V. As an orthopædic measure, extension should always supersede *brisement forcé*, so long as pain and tenderness exist; in exceptional cases of contracture, it may be profitably combined with forcible extension.

VI. In the treatment of inflamed joints, extension must be combined with fixation.

MILWAUKEE, WIS., Sept. 14th, 1877.

A NEW STEM PESSARY WITH MOVABLE DISC.

BY E. CUTTER, M. D., CAMBRIDGE, MASS.

Sometimes it is difficult to introduce a stem pessary into the uterine cavity, because the flexion it is designed to straighten, the narrowness of the os uteri, and the sphincters of the os vaginæ all resist. Sometimes, too, the uterus itself will rise out of reach on the end of the stem, and at times the stem will pocket itself in the uterine wall. It is generally necessary first to reduce the flexion by means of a uterine sound, next to pass the stem through the os by the side of the sound. When the ordinary, or the writer's stem pessary, with fixed disc, is employed in this way, a great obstacle is found in the excessive stretching of the mouth of the womb caused by the triangle made by the sound, the stem and the semi-diameter of the disc. The sound forms one side of the triangle, the stem of the pessary another, and the half disc the base. To properly introduce the stem, the os must be dilated so as to swallow this whole triangle. Sometimes it will do it readily; at others, the point of the stem will not pass beyond the angle of flexion. In this case, if the sound is withdrawn, the stem can be pushed up into place. But if the point of the stem halts before reaching the flexion, and the sound is with-

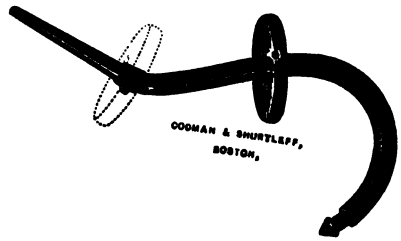
drawn, the stem will rarely be pushed beyond, because the flexion is so readily re-established when the sound is removed.

To obviate the stretching of the os uteri, it would theoretically be the simplest way to get rid of the base and one side of the triangle described above, by passing the stem immediately after the sound is withdrawn. This can rarely be done, as a flexed uterus is very much like a bent steel spring — the flexion will return as soon as the extension is withdrawn. We are left then to pass the stem by the side of the sound, which is buried in the uterine cavity, and which is straightening out the flexion. The base of the triangle described must be reduced to a minimum. This the writer formerly accomplished by slotting the disc down to the axis of the stem. This procedure permits the cylinder of the stem and the sound to lie side by side, and offers the smallest obstacle to introduction. *But* (how often this little word spoils our expectations) it was found practically also a difficult thing to keep the sound in this slot, or prevent the knob (which serves as a mark two and a half inches from the distal end) from becoming engaged and caught in the disc, so that both sound and stem would have to be removed before they could be separated; thus defeating the whole operation.

It was then thought best to have the disc movable — to insert it first of all into the vagina, pass the sound through it, and then pass the stem through that, and so on. It was found, however, that this method would require too large a foramen in the disc, and that the sound would be introduced with greater difficulty than before.

It next occurred to have the disc movable on the cylinder of the writer's stem pessary, towards the proximal end — to pass the denuded stem side by side with the sound — to withdraw the sound and then slip up the disc into its place. This idea, carried out, has been found to be practical. The base of the triangle above referred to, and the necessary stretching out of the os uteri, are reduced to a minimum. The contraction of the vagina and the pressure of the perineum are rendered very much less by the disc being entirely outside the body until the stem is properly introduced, and the whole operation is much simplified. The disc has a central perforation large enough to admit the cylinder

of the pessary. On the inside of the circumference of this perforation, an annular channel or square groove is cut. Another groove is cut vertically leading into the annular groove from above. Opposite to this vertical groove, is a small notch in the edge of the disc, which serves to mark its location. A pin is inserted into the base of the stem of the pessary, which fits into the grooves above named. When this pin enters the vertical groove, it passes into that which is annular, and the disc is thus held securely. The chance of its escaping is small when the disc is turned through about half a circle.



The figure represents such a stem pessary. It shows the movable disc in the act of being passed up to the bayonet catch at the base of the stem. The notch is rather too faintly represented in the cut. A small pin inserted in the under surface of the disc answers better than the notch. The dotted lines show the situation of the disc over the pin in its final location. The transverse line between the disc and the proximal end of the pessary, marks the site of a joint, which allows of the end being turned away during the act of defecation, and being held thus supporting the uterus at a time when it is most needed.

These stems must be used with care. It is not enough to send for a stem pessary, and apply it to the first case that comes under observation. A process of preparation should precede its use.

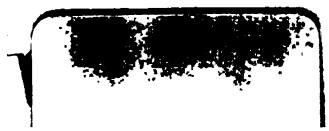
The diagnosis of simple flexion should be assured. There should be no metritis, or perimetritis, nor any complications of diseased conditions.

The patient should be willing to lie in bed for a week, if necessary. The general health should be cared for with the proper generous diet and medicine. A compliance with the conditions named above, implies an examination with the uterine sound. If conducted properly, it throws light upon most of the doubtful points. At the same time, the depth of the uterine cavity should be noted, and also the distance from the os uteri to the perineum. A stem pessary should be selected *after due consideration of*

existing conditions. Its stem should be one half or one quarter of an inch shorter than the depth of the uterine cavity; and its cylinder should be half an inch longer than the measurement from the os to the perineum.

When every preliminary is arranged rightly, the patient may recline laterally on the padded top of a dining-table. The left arm should project behind, and the knees be drawn up. The sound may then be introduced, straightening out the flexion, and the patient, resting her right fore arm on her right thigh, should hold it in place; or an assistant may do the same thing. Unless the fore arm is resting upon something, the hand will insensibly move, and the uterine sound be expelled by the contraction of the uterus. Next the disc of the pessary is pushed down to the proximal end, and the left forefinger of the operator placed on the os, when the stem is passed over the finger, and engaged in the os by the side of the sound. It is then pushed beyond the site of the flexion, and the sound withdrawn. The stem is next pushed into place — a point made known by the position of the pin on the stem-shaft. The disc is then slipped along the cylinder by the left forefinger through the vagina, and its grooves are engaged on the pin. The notch in the disc serves as a guide-point. The facility with which the pin engaged in the grooves has surprised me in every instance of trial. After engagement, the disc is turned about half a circle, and the suspensory cord is held in the hand, while the belt is secured around the waist. If the cord is slack, it should be tightened; if tight, it should be slackened. The hook of the pessary should entirely clear the perineum, and air should circulate between them. If, as sometime happens, sooner or later, the uterus should rise on the pessary, so that it touches the perineum — a longer pessary should be selected. Vaginal examinations should be made from time to time, and if heat, tenderness and throbbing, combined with subjective pain, local, general or sympathetic, are found, *the instrument should be removed.* Indeed, the *patient herself is always instructed to remove the stem if it becomes a source of irritation or pain.*

The instrument is as much under the control of the patient at all times, so far as removal is concerned, as a set of false teeth



When a stem pessary like that described is properly fitted, the flexion of the uterus is reduced, and the organ held in its normal place. The axes of the pessary are those of the normal vagina and uterus. The pessary does not distend the vagina, but merely dilates the canal of the uterus not much beyond the normal measure. From these features the writer has regarded it as theoretically correct. The practical question turns upon its *toleration.*

All cases of flexion will not tolerate a stem; nor will all cases of sickness tolerate medicine. As we do not know beforehand what patients will tolerate medicine, so we do not know what uteri will tolerate stems.

It is not truthful for any one to assert that *no cases whatever* will tolerate a stem pessary. A patient of mine, seen in consultation, lately wore one of my stems for a year with convenience. Others have worn them for months at a time. A stem pessary, introduced just before the menstrual epoch, was worn without trouble. Indeed, the patient said she had not passed so comfortable a period of monthly sickness for several years. There was an especial reason why this procedure was resorted to — it could not be recommended as a general rule.

This is not the occasion for arguing the pros and cons of stem pessaries. It is here simply designed to state that the apparatus here presented has been found to save time, pains and trouble in introduction, and that the device has been worn for long periods of time without trouble. If, after careful attention to the principle which should prevail when fitting body appliances, the device here recommended, should fail, it should be rejected. It is well, however, to remember that the range of its application lies in cases which are not complicated with other diseased conditions, with the exception only of prolapse of the ovaries.

There is another point to be noted with reference to stem pessaries that bear my name. When a patient wears them well, the instrument needs no close attention, because as long as it is worn the flexion is straightened, and the displacement is *cured*, that is *cared* for in the best manner. Displacement rarely occurs. The writer knows of no *fatal* case from its use, and of no very serious trouble from its employment, because of the care always

taken to watch the case closely for a few days. If there is increasing trouble indicated by systemic and local signs, the patient is directed to remove the instrument at any time. Those persons who introduce various kinds of stem pessaries at their offices, and then send their patients home, must expect trouble, for this is tampering with danger. Indeed, the passage of the uterus must, under similar circumstances, have proved a serious matter. But if done where the patient can keep quiet, no harm results.

Singular as it seems, I have a patient who has worn a stem pessary for over a year who could not wear an extra-uterine pessary on account of hyperæsthesia.

A patient suffering with a prolapsed ovary has worn one of my stems for thirty-two months with relief. The idea was to elevate the uterus with this instrument and lift the fallen ovary up into its place. This patient resides in Maine. She went home from Boston wearing the stem, and seventeen months after its introduction the writer examined the uterus with a speculum. There was no infiltration, obstruction or abnormal redness of the cervix. The os contracted down to its usual size. No evidences were presented of the womb having been so long supported on the disc as this is the "pou sto."

Another remarkable thing—this patient occasonally removes the instrument and replaces it. It is not often that it is necessary to remove. She now is wearing a four-inch stem, the longest ever used in my practice. Some years ago, a woman in Maine was bedridden with a uterine flexion. Her physician, at my suggestion, introduced one of my stems, following the directions here indicated. She wore it two years and was entirely cured.

Another woman, similarly situated, a patient of the same physician, also wore one of my stem pessaries for eighteen months, and was entirely relieved.

Four women are now wearing my stems with relief when other means have failed. All these cases were carefully watched to ascertain the degree of toleration. In the light of this experience of several years, I feel justified in resorting to this means of reducing flexions and elevating prolapsed ovaries. Should any one be disposed to pursue the plan, his attention is respectfully

invited to the fuller exposition of the writer's opinions and directions contained in a little work recently published by J. Campbell & Son, Boston, entitled, "Uterine Versions and Flexions."

CAMBRIDGE, November, 1877.

DIABETES CURED BY SKIM-MILK.

BY DR. H. W. JONES, CHICAGO.

On the 24th of May last, a gentleman consulted me, whose case presented the following aspects:

He was 42 years of age, of a bilio-nervous temperament, of temperate habits, though using tobacco freely, and with a history of remarkable health, excepting an occasional sick-headache, and a rare colic from indigestion.

During the previous autumn and winter, he had been subjected to severe mental strain, and was often engaged at his desk ten or twelve hours a day, under the pressure of anxious responsibilities. For the preceding ten days or more, he had noticed a decided increase in the quantity of urine passed, believing it to amount to eight or ten pints daily, while the frequency of micturition was a source of annoyance by day and night.

He was also unusually thirsty, experienced decided lassitude, and though with fair appetite, had difficult digestion, and was losing weight. His mouth was aphthous, and he had balanitis for the first time in his life. A specimen of urine, presented the next day, was of a bright amber color, fruity odor, acid reaction, without deposit, specific gravity 1047°, and with Fehling's test precipitated abundant sugar.

The recent knowledge of Dr. Arthur Scott Donkin's plan of treating diabetes by a strict confinement of the patient to the use of skim-milk, led me to propose this regimen as the most promising known, and Mr. D. entered at once upon it with an intelligent appreciation of the gravity of his disease, and of the rules laid down for his guidance. These were briefly as follows: He was (1) to take *no other food* than skim-milk; for the first day or two (2) he was to drink but *four or five pints* in all,

distributing this amount at intervals of two hours; after the third day (3) he might add a pint or two of the same preparation *curded with rennet*, but he was not to exceed seven pints, including curd.

The milk was obtained through special sources, and was kept till all cream had risen, when every particle of the latter was carefully removed.

The record here given, Mr. D. kept personally, and it is replete with interest.

DATE.	SP. GR.	SUGAR.	NO. PINTS OF MILK 24 HOURS.	NO. PINTS URINE 24 HOURS.	WEIGHT.	REMARKS.
May 24	1047°	heavy	.....	8 to 10	.....	Disease discovered.
May 25	.....	.....	.....	.....	154	Usual weight about 165 pounds.
May 26	1047°	heavy	3	.....	.....	Began skim-milk; other food and drink given up.
May 27	.....	.....	6	6		
May 28	.....	.....	7	5	147	Weak and indisposed to exertion.
May 29	.....	.....	.....	4	150	
May 30	.....	.....	8	4	152	Two pints made into curd.
May 31	1038°	less	8	.....	153	
June 1	.....	.....	8	.....	154	Constipated.
June 2	.....	.....	8	3½	154	
June 7	1030°	less	10	.....	.....	Four pints made into curd.
June 10	.....	.....	.....	4		
June 14	1023°	little	.....	.....	152½	Water enemas relieve constipation.
June 21	1022°	little	10	.....	152	
June 28	1018°	none				
July 1	.....	.....	.....	2		
July 5	1032°	sugar	10	.....	.....	Milk had not stood long enough to separate cream.
July 7	1028°	less	10			
July 8	.....	.....	8	3		
July 10	1022°	none	8	2½		
July 12	1020°	none	10	.....	.....	From this date no sugar appeared; the same food being continued.
Aug. 7	1018°	none	.....	.....	.....	Began eating mutton-chops and beef; no starchy foods. It is four weeks since sugar disappeared, and seventy-three days since treatment began. Averaged 1020° to 19th.
Aug. 19	1022°	none	.....	.....	.....	Eats now lamb, mutton, beef, fish, cabbage, onions, squash, oysters, eggs, chicken, and drinking tea and coffee.
Aug. 30	1020°	none	3	normal	145	
Sept. 10	1020°	none	3	normal	.....	Commenced eating bread.
Sept. 20	.....	...slight	.....	.....	.....	A sleepless night and much anxiety.
Sept. 21	.....	none				

It will be observed that in five days the specific gravity of the urine diminished from 1047° to 1038°, and its quantity, from eight pints or more, to four pints daily. Meantime, the weight of the patient suffered little diminution.

In less than thirty days the specific gravity reached 1018°, and sugar wholly disappeared; but July 3d, when the atmosphere

was unfavorable to the preservation of milk, and to the total removal of cream, sugar reappeared, but in very slight amount, the density meanwhile reaching 1032°. By the 10th, however, this fell again to 1022°, and the quantity of urine passed, to two and a half pints.

Four weeks from this time he began to eat mutton and beef, but touched no amylaceous food.

One month later he was permitted bread, and found no sugar during about a week, but then, after a sleepless night, and much anxiety, he reported "a trace," which disappeared in less than a day, and has never since recurred.

At present, the patient seems in perfect health, though he has been actively engaged at his usual avocation during the entire treatment. His stomach was never more dutiful, and he has had neither sick-headache nor colic since May last.

The result of this case, as compared with previous experiences in the treatment of diabetes, leads the writer to hope that Dr. Donkin's views* may be more widely recognized as both scientific and practical, and that the record of other cases treated in accordance, may prove as satisfactory.

THE BATH OF DECREASING TEMPERATURE IN THE TREATMENT OF TYPHOID FEVER.

By M. H. Garten, M. D., Dover, Illinois.

I do not make any claim to original ideas in the treatment of typhoid fever, as set forth in this article, but merely wish to relate the history of a case which, to me, appears to be of unusual interest, and whose active symptoms were mitigated under the influence of the bath of decreasing temperature.

Mrs. E. C——, aged 20, in her first pregnancy, nursed her husband during an attack of typhoid fever. I was called to see her Sept. 2d, 1877. She stated that she had not been well for several days, that her flesh was sore, and that at times she was chilly and feverish.

* "Diabetes and Its Relation to Food," and "Diabetes and Its Treatment by Skim-Milk."

I found her with a pulse of thirty beats, tongue slightly coated, pain in the head and back, slight abdominal tenderness, and the bowels loose. Having conducted her husband through his fever, I naturally suspected that this case was one of the same character, and gave tincture of gelseminum, sub-nitrate of bismuth and opium.

Sept. 4th.—The pulse was 120, the bowels moving less frequently, free epistaxis at times, and an annoying cough. No appetite. The bismuth and opium were continued, but instead of gelseminum, I gave dilute muriatic acid and tincture of digitalis.

Sept. 6th.—No marked change.

Sept. 7th.—Morning temperature in axilla, 103 3-5; pulse, 120. Evening temperature, 105; pulse, 118. Bowels loose. Free epistaxis during the day and cough; tongue dry and fissured; milk or beef tea at regular intervals unless the patient sleeps. The nurse is instructed to omit the medicine rather than the nourishment.

Sept. 8th.—Morning temperature, 102 4-5; pulse, 114; evening temperature, 105; pulse, 120. The patient to be sponged freely with tepid water, morning and evening.

Sept. 9th.—Morning temperature, 103; pulse, 118; evening temperature, 104: pulse, 120. Slightly delirious, bowels loose, increased abdominal tenderness, tongue dry and sore, teeth heavily coated with sordes. A teaspoonful of alcohol in a wine-glassful of sweetened water every two hours is added to the treatment.

Sept. 10th.—Morning temperature, 103; pulse, 120; evening temperature, 106; pulse, 118. Rested poorly last night; more active; frequent change of position, or picking at the bedding; when interrogated, she answers correctly, yes or no; cough quite annoying, dry and harsh; voids feces and urine in bed; protrudes tongue with difficulty.

Sept. 11th.—Morning temperature, 104; pulse, 130, and tremulous; rested but little last night; bowels moving freely; much prostration.

Thus, from day to day, I observed my patient gradually losing her hold on life, until she was but the shadow of her former self. So far as I was able to form an opinion, the medication availed

but little, and yet the exalted temperature, so rapidly doing the work of destruction, had to be reduced. The use of quinine, as an antipyretic in other cases, had disappointed me, and hence I determined to make trial of the bath, though as I had never before made use of it in the treatment of disease, it was not without some foreboding that the trial was now made. Ziemssen's method of treating typhoid fever was received by me as I fear country physicians receive too many good suggestions, as a probably efficient method in the hands of its author, or in the practice of a large hospital, but wholly inadequate to the purposes of a busy practitioner. At that time I never thought it possible for me to make it available or dreamed of ever daring to employ it.

Having procured a rubber bath-tub, it was placed at the bedside, and partly filled with water at a temperature of 94°, 10° less than that of the patient. She was placed in the tub with a sheet, folded two or three times, arranged so as to prevent the cold water from coming in direct contact with her person. The tub was covered with a sheet, so that she was directly incased, with the exception of the head. Upon the outer sheet the water, fresh from the well, was poured, and left to find its way into the tub. This was continued until she complained of being chilly, when she was removed to the bed and lightly covered, having remained in the bath twenty-five minutes. The temperature of the water was reduced from 94° to 70°.

I should mention the fact that at all times I was governed in the regulation of the temperature by the patient's sensation of cold, instead of by the instruction to reduce the temperature to 68°. Some of the baths given in this case were not reduced to a temperature below 78°, yet the wished-for results were obtained, viz., a decided reduction of temperature, and a complaint on the part of the patient that she was cold. After the bath, the patient's temperature registered 102 2-5°, instead of 104°; and she rested comfortably in bed, without becoming exhausted, as I had feared.

At evening I found she had improved during the day; pulse, 112; temperature, 103—a decrease of 3° since last evening. Another bath was therefore given.

Sept. 12th.—Morning temperature, 101 3-5; pulse, 114;

evening temperature, 102 2-5; pulse, 120. Two baths given to-day. She is quite rational; tongue moist and cleaning; cough not so frequent; asks to use the bed-pan; does not object to taking nourishment.

Sept. 13th.—Morning temperature, 102 2-5; pulse, 112; evening temperature, 103 1-5; pulse, 120. Is doing well. Two baths given in the day.

Sept. 14th.—Morning temperature, 100 3-5; pulse, 114. Is quite bright, and improving her time in removing the sordes from her teeth.

Dr. E. F. Ingals, Assistant Editor of this journal, saw Mrs. C—— with me, last evening and this morning; also concurring in my diagnosis. As her temperature was so much lower than on the previous morning, no bath was given. At evening, however, I found the temperature to be 103 3-5, a little more than on the previous evening; pulse, 120. Another bath was given to-night.

Sept. 15th.—Morning temperature, 102 3-5; pulse, 114; the temperature was higher than on the previous morning. Evening temperature, 102 2-5; pulse, 106. Two baths given to-day. The patient is improving.

Sept. 16.—Morning temperature, 99; pulse, 96; evening temperature, 102; pulse, 106. She has a desire for nourishment, and prefers beef tea.

Sept. 21st.—From the 16th to the 21st inst., the temperature ranged between 99° morning, and 102 3-5° evening.

Sept. 22d.—Morning temperature, 98½; pulse, 92; gave bath at 3 p. m. to-day. The temperature just before the bath was 100 3-5; just after, 99°. The temperature of the water (92°) was reduced to 75°; 7 p. m., temperature, 100; pulse, 96.

Since this date, the bath has been given before the hour for the rise of temperature, and at no time has the temperature advanced above 99 3-5.

Sept. 26th.—Temperature, 98½; pulse, 82. Every symptom is propitious, and a rapid convalescence anticipated.

Sept. 27.—I was summoned in haste at 2 a. m., and found labor had supervened. It slowly advanced until 8 a. m., when the fœtal head having descended, I delivered her with forceps, of

a living, skeleton-like child, which appeared to be about eight months old. The mother passed through her labor far better than was expected, losing but very little light-colored blood.

Sept. 28th.—She rested well during the night, and requested me to state that she is convalescent, and is indebted for it to the bath.

Oct. 10th.—Rapid convalescence from both the febrile and the puerperal states.

After this experience, I feel convinced that merely placing a patient in water is not so much to be dreaded as, on first impression, one is induced to believe. While this mode of treatment requires more time than the visit and prescription of routine practice, it is safe, efficient, and pleasant for the patient, wholly under the control of the physician, and easily comprehended by an intelligent nurse. Quinine, on the other hand, given in large doses in typhoid fever, is unreliable, dangerous, and capable of doing irreparable injury. The same may be said of all arterial sedatives. I am of the opinion that the treatment here recommended would be equally valuable in typho-pneumonia. In Mrs. C.'s case, the dry, hacking cough ceased to be annoying after I had resorted to bath treatment.

The details given above of the treatment of this case, are taken from notes carefully made by myself at the time of each visit, and I shall not regret their publication if they shall, in any degree, contribute toward relieving others of that timidity with which many are disposed to regard new methods of treatment—those especially which have come to us from abroad. I might add, that the case is published also with a view to inducing others to make a fair trial in typhoid fever of the bath of decreasing temperature.

REPORT ON 565 CASES OF EYE DISEASES TREATED AT THE CENTRAL FREE DISPENSARY.

By William T. Montgomery, M.D., Chicago.

(*Read before the Chicago Medical Society Dec.* 3, 1877.)

During the past two years I have treated at the Central Free Dispensary, 565 patients affected with diseases of the eye. We had 108 affections of the lids; 24 of the lachrymal apparatus; 192 of the conjunctiva; 138 of the cornea; 31 of the iris and choroid; 26 of the lens; 18 of refraction and accommodation; 12 of optic nerve; 12 of the muscles; and 4 of the globe.

Of the 108 affections of the lids there were: eczema, 14; blepharitis ciliaris, 59; hordeolum, 6; ulcer of lids, 4; trichiasis, 13; entropium, 4; chalazion, 8.

I shall only notice one disease of this group as being of interest to the general practitioner. Blepharitis ciliaris comprises more than half of the whole number of lid affections, 59 in 108. This is essentially an ulcerative inflammation of the edges of the lids and ciliary follicles. As impure air, uncleanliness, and improper nourishment, are common causes of blepharitis, we have in the bad hygienic conditions of most dispensary patients, elements favorable for its production. Of the 59 cases here presented, 37 were under 10 years of age, and a large per cent. of the whole number presented evidences of the strumous diathesis. Tonics entered largely into the treatment of these cases. Quinine, iron, and cod liver oil were the favorite remedies. The local treatment was as follows: thorough cleansing of the edges of the lids, and keeping them free from the crusts which form so rapidly in this affection. When these were thick and firm, I either removed them in the first instance myself, or ordered warm fomentations until they were softened, and were easily removed by the attendants. Some form of mercurial ointment (usually the red oxide) was prescribed, to be applied to the edges of the lids night and morning. In some of the severer and more obstinate cases, the edges of the lids were

brushed with the nitrate of silver solution, grs. xx. to xl. to ʒ i., two or three times a week. Of the 24 affections of the lachrymal apparatus, there were eversion of puncta, 12; abscess of lachrymal sac, 3; stricture of nasal duct, 9. I will not occupy your time with either of these.

The 192 conjunctival affections were as follows: catarrhal conjunctivitis, 122; granular conjunctivitis, 45; phlyctenular conjunctivitis, 8; purulent conjunctivitis, 6; infantile conjunctivitis, 1; pterygium, 7; burn of conjunctiva, 2; epithelioma of conjunctiva, 1.

Catarrhal conjunctivitis numbers more than half of the diseases of the conjunctiva here presented, 122 in 192. Of the whole list of eye diseases, none yield more readily to proper treatment than does this, but neglected or improperly treated, it may become chronic and obstinate. In the milder cases, I have generally brushed the conjunctiva with a gr. iii. to ʒ i. sol. of silver nitrate, and prescribed gr. ii. sol. of sulphate zinc, to be dropped into the eyes two or three times daily. This, together with cleanliness, and protecting the eyes from all causes of irritation, was all the treatment required in these milder cases.

For the more severe cases, a stronger solution of nitrate was used; but seldom stronger than gr. v. to the ʒ i. This was applied once daily, and the patient given a weak astringent solution to use at home once or twice daily. To prevent the gluing together of the lids, the patient was directed to grease the edges at night with fresh lard or cream. If the edges of the lids were excoriated, the red oxide ointment was ordered.

I do not wish to convey the impression that nitrate of silver is the only remedy I have used in the treatment of catarrhal conjunctivitis, but I must say it is the best remedy I have used in this disease, as well as in purulent conjunctivitis.

Acetate of lead, gr. v. or gr. x. to ʒ i., is the next most efficient remedy in catarrhal conjunctivitis.

The patient's general and hygienic conditions were made as good as possible.

Of the 192 conjunctival affections, there were 45 cases of granular conjunctivitis. This is essentially a disease of adult life. Of the 45 cases, but one was under 15 years of age, 5 over

50. Some eminent authorities have maintained that it is frequently due to constitutional causes. This has not appeared to be true of the cases here presented. While I am not able to give the exact number of cases which presented any evidence of the scrofulous or other diathesis, I am sure it was not sufficient to enter into account as a cause. It is true a large per cent. of these cases were in a weakened debilitated condition, but I am inclined to adopt the views of Soelberg Wells; "that the ill-health is often, rather the effect than the cause, for the very protracted course of the disease is sure to tell more or less severely upon the health and spirits of the patient."

As to the treatment of granular conjunctivitis, I haven't anything very encouraging to offer. This disease has long been, and still remains, an eye-sore to the profession. But since the pathology of the disease has become better understood, the treatment, if not more successful, has been less harmful. I think it is unanimously conceded now, that true granulations are not simply enlarged papillæ, but new formations, neoplastic growths. And that the object of treatment is not to burn out, or chemically destroy them, but to keep up sufficient irritation or inflammation to cause their absorption.

The remedies which have been recommended and used with more or less benefit in the treatment of this disease, include almost the entire list of caustics, irritants, and astringents. I do not consider the choice of remedies as important as the proper application of the remedies chosen. Yet, it is perhaps true, that every one who has had any considerable experience in the treatment of granular conjunctivitis, has settled upon some favorite remedy. I must admit that this is true with myself, and the local application I have used most in the treatment of these cases, is what I shall term the sulphate solution. I first began to use this solution over two years ago, at the suggestion of my friend Dr. Holmes. The following is the formula: Ferri sulph., zinci sulph., cupri sulph., and alum. sulph., equal parts in distilled water. ℞ 3 i. of each to f℥ i., makes a saturated solution. I keep a solution of this kind, and dilute it as the case may require, occasionally using it full strength. While the strong solution is a pretty severe application, and requires to be used cautiously, it

is not caustic, and the pain it produces, though more severe for a few minutes, does not last as long as that produced by the application of blue stone.

I have generally used a solution containing gr. v. of each to ʒ i. of distilled water, applying with a brush once daily.

A large per cent. of the cases of chronic granulations have more or less vascularity or roughness of the cornea, and it is in these cases that I have found this solution especially useful. I seldom use the saturated solution, but in cases with dense pannus, great intolerance of light and spasm of the lids have found happy effects from its use. I do not present this solution as a specific for granulations, or as being the only remedy I use in the treatment of this disease, but as being the best application I have used. The next best remedies are blue stone, red or yellow oxide of mercury ointment, nitrate of silver, and acetate of lead in the order named. Quiniæ sulph. dusted on the conjuntiva once daily, I have found to act happily in relieving photophobia and spasm of the lids, but have not observed that it has any effect upon the granulations.

I have looked upon the affection as purely local, but have tried to improve the general condition where I found it bad.

We have 134 corneal affection, as follows: ulcer of cornea, 19; wound of cornea, 11; abcess of cornea, 6; mote in cornea, 3; phlyctenular keratitis, 47; vascular keratitis, 12; interstitial keratitis, 6; leucoma, 13; staphyloma, 5; pannus, 12.

Of this group we shall only notice phlyctenular keratitis, which comprised nearly one-third of the whole number of corneal troubles. This number I think fairly represents the relative frequency with which the disease is met, and its relative importance to the physician.

Phlyctenular inflammation of the cornea, so far as the cases here presented are concerned, is as much a children's disease as any that is classed as such. The books on diseases of the eye tell us that "this is a disease most frequently met with in children from six to twelve years of age." Of the number here presented, thirty-two were under six years of age, and only three were over twelve. This disease has been termed by some, and not inappropriately, scrofulous corneitis.

If there is one eye disease met with in dispensary practice, that more imperatively than any other demands attention to the general condition it is this. Indeed, so strongly have I been impressed with this truth that I have almost fallen into the routine practice of prescribing tonics in every case of this affection.

My favorite remedies are the syrup of the iodide of iron and cod-liver oil, together with as nourishing food and good hygienic conditions as possible. If the little patient is unable to take the pure oil, I have lately been in the habit of prescribing Scott's emulsion, which is easily taken, and is an excellent substitute for the pure oil.

Quinine and Fowler's solution of arsenic are useful tonics in this disease. The latter is more especially indicated in cases accompanied with an eczematous rash of the face. If it is important to attend to the general health in this disease, we must not do so to the neglect of the local treatment. We sometimes get wonderful results from local treatment alone. But to successfully combat that most harrassing feature of the trouble—the great tendency to recurrent attacks of the inflammation—we must be on the alert with both general and local treatment. I need not remind those who have had any experience with phlyctenular keratitis, that the most striking characteristics of the disease are the photophobia, blepharospasmus, and general nervous irritability of the patient. Indeed these symptoms are almost pathognomonic, and, when present in a marked degree, the local remedy is atropine. My practice has been to prescribe atropiæ sulph. gr. ii. to ℥ i. of distilled water, to be dropped into the eye once in two hours, until the pupil is fully dilated, and three or four times a day afterward. If the spasm of the lids is very great, I make the first applications myself, and charge the parents to make sure of getting the drops in the eye every time at home. The effect of atropine in this disease is sometimes truly marvelous. It acts as a local anæsthetic upon the cornea, relieving the irritability of this structure and the ciliary nerves. It also diminishes the intraocular tension, and, by thus lessening the pressure upon the cornea, favors its nutrition and reparation.

As soon as the irritability is relieved, we begin to dust upon the cornea once daily, the mild chloride of mercury. This,

besides hastening the absorption of opacities remaining, is one of the most efficient remedies we have in preventing relapses of the inflammation. The red or yellow oxide of mercury gr. ii. to ʒ i. of lard or glycerole of starch are equally good, but are not so convenient for me to use.

Of the 31 affections of the iris and choroid, there were 19 cases of iritis; kerato-iritis, 4; irido-choroiditis, 7; and glaucoma, 1. We can only very briefly refer to one of this group—iritis. While this disease is not so frequently met with as the others referred to, it is important, from the fact that neglect or improper treatment is more apt to produce permanent injury to the eye.

Iritis is not a favorable disease to treat in dispensary practice, because two important factors in its treatment—rest of the eyes and exclusion of light—are denied.

It is not long since mercury was considered almost a *sine qua non* in the treatment of this disease. If there is anything in medicine I am conservative in, it is in the internal use of this drug. I make it a point never to administer it in the treatment of iritis, unless there is evidence of specific trouble, until I have given local medication a thorough trial.

In the treatment of these cases, I do not remember a single case of non-specific iritis that did not yield without the use of mercury.

As a local application, we have in atropine a remedy that in most cases of iritis meets all the indications. 1st. It dilates the pupil, and prevents adhesions between the iris and capsule of the lens. 2d. It paralyzes the accommodation, and puts the eye in a state of rest. 3d. It lessens the eye tension, and thus relieves the intra-ocular circulation and diminishes the congestion of the iris. 4th. It relieves pain.

But to get the full effect, a strong solution must be used, at least gr. iv. of the sulphate of atropia to the ʒ i. of distilled water. I try to see the patient once a day, and drop the solution into the eye myself, four or five times, at intervals of a few minutes, and direct the patient to use it at home every hour. After the eye is well under the influence of the atropine, four or five times a day is often enough to use it. If the pain is severe, hot fomentations applied to the eye is my first additional resort; second, leeches to

the temple; and third, morphia. The eyes are protected from the light, and other sources of irritation, as well as possible. The patient's bowels are kept regular; the skin and kidneys active.

Of the remaining eye affections, we have cataract, 24; dislocation of lens, 2; neuro-retinitis, 4; atrophy of optic nerve, 4; amblyopia, 4; asthenopia, 4; myopia, 4; hypermetropia, 6; strabismus convergent, 7; divergent, 1; paralysis of third nerve, 1; paralysis of sixth nerve, 3; panophthalmitis, 2; atrophy of globe, 1; tumor of orbit, 1.

Clinical Reports.

NOTES FROM PRIVATE PRACTICE.

A Case of Ovariotomy.

Mrs. S. B. D. L.—Mother of two children, of good constitution and fair health, began to notice in the summer of 1874, an enlargement of the abdomen. During the fall she was seized with a severe attack of violent paroxysmal pain, which confined her to her bed for several days, after which the tumor in the abdomen could not be felt. In the summer of 1875 it began to enlarge, and she called upon Dr. E. R. Willard. He then diagnosticated an ovarian tumor, about four inches in diameter. After this the abdomen slowly increased in size, until the 28th of August, 1875, when she was seen by Dr. A. W. Heise, of Joliet, Ill., who advised paracentesis, which was performed by Dr. Merriman, and twelve pounds of albuminous fluid evacuated. Four weeks later, the sac having rapidly refilled, and the pressure becoming great, it was thought best to again relieve the patient by tapping, which was done on the 30th of September, and twenty pounds of very thick albuminous fluid removed.

On Oct. 20th, the sac having nearly refilled, her father and husband said that if Dr. E. R. Willard, in connection with Dr. Merriman, of this place, would undertake the removal of the tumor, they "would be entirely satisfied, let the result be what it might." The patient had been taking the elixir of iron and bark for several weeks; this was ordered to be continued.

The bowels were moved on the 25th, by a dose of senna and magnesium sulphate.

At 12 m., Oct. 26th, she was given brandy. At 1:30 p. m., etherization was commenced by Dr. G. E. Willard, in a room brought to a temperature of 32° C. The patient having been etherized, an incision reaching from near the umbilicus to the symphysis was made, the peritoneal cavity entered, and the peritoneum divided between the fingers. The tumor was then seized with a pair of duck-bill forceps, the patient partially turned upon her left side, an opening made in the tumor with a bistoury, and the fluid evacuated as quickly as possible by enlarging the opening and introducing the hand into the tumor and breaking up the cysts from the inside, thereby preventing the fluid from coming in contact with the peritoneum.

The adhesions were slight, and easily broken up. After drawing the tumor through the abdominal parietes, the pedicle was secured with Spencer Wells' clamp, and severed; the abdomen sponged with fresh, warm, carbolized water (the hands, sponges, and instruments were all dipped in carbolized water before use about the patient), and the wound closed with silk sutures according to the plan of Spencer Wells—pledgets of cotton, dipped in carbolized oil, were placed upon the wound and around the clamp; when the entire abdomen was covered with cotton wool two inches in thickness. A flannel bandage was then pinned moderately tight over the whole, and the patient put to bed.

The weight of the entire tumor, fluid and solid, removed in the operation, was thirty pounds. Time occupied in the operation, twenty-five minutes.

Thirty minutes after the operation, pulse, 86; temperature, 36°†; 6 p. m., pulse, 88; temperature, 37½°; directed beef essence every four hours.

Oct. 27th, 3:30 a. m., pulse, 100; temperature, 37 8-10°; urine drawn every four hours; 8 a. m., pulse, 100; temperature, 37 8-10°; 12:30 p. m., pulse, 96; temperature, 38°; 6 p. m., pulse, 100; temperature, 38¼°.

Oct. 28th, 4 a. m., pulse, 100; temperature, 37½°; 9 a. m., pulse, 100; temperature, 37 6-10°; some nausea; 6 p. m., pulse,

† The temperature in this case is stated throughout as registered on the Centigrade scale.

114; temperature, 38 1-10°; nausea increasing; has retained only one-half pint of milk in the last twelve hours; vomited several times in the course of the day; ordered five grains of citrate of iron every six hours, and one-sixteenth of a grain of morphine every six hours alternately with the iron; gave two ten-grain doses of the sub-carbonate of bismuth, at an interval of thirty minutes, to correct the acidity of the stomach.

Oct. 29th, 8 a. m., pulse, 105; temperature, 37 6-10; has hiccough every ten to twenty minutes; 1 p. m., pulse, 105; temperature, 37 8-10°; has had one-eighth grain morphine at 1 a. m. and 8 a. m; 6 p. m., pulse, 108; temperature, 37 3-10; gave two grains of quinine.

Oct. 30th, 8 a. m., pulse, 94; temperature, 37°; gave hypodermic injection of one-eighth grain of morphine at 11 p. m. last night; hiccough less; retains solid food; passed urine naturally; gave one pint of warm water as an injection, with a few drops of carbolic acid 95 per cent.; has taken two grains of quinine every four hours the past twenty-four hours; 6 p. m., pulse, 92; temperature, 37 6-10°; gave one-eighth grain of morphine hypodermically.

Oct 31st, 8 a. m., pulse 92, temperature 37 6-10°; hypodermic injection of $\frac{1}{8}$ gr. morphine; sickness increasing; 6 p. m., pulse 105, temperature 37 7-10; ordered lime water and milk as an exclusive diet.

Nov. 1st, 8 a. m., pulse 95, temperature 37 6-10°; nausea and hiccough relieved; added mutton broth and crackers to lime water and milk; no medicine; 6 p. m., pulse 104, temperature 37 7-10°.

Nov. 2d, 8 a. m., pulse 103, temperature 37 2-10; some appetite, fish and potatoes added to diet; 6 p. m., pulse 107, temperature 37 7-10°.

Nov. 3d, 8 a.m., pulse 97, temperature 37°; removed all the sutures, clamp not sloughed off; 6 p. m., pulse 105, temperature 39°; appetite good.

Nov. 4th, 8 a. m., pulse 120, temperature 37½°; 6 p. m., pulse 125, temperature 39°.

Nov. 5th, 8 a. m., pulse 120, temperature 37½°; clamp removed; wound closed entirely by first intention; 6 p. m., pulse 120, temperature 37°; bowels moved by injections.

Nov. 6th, 8 a. m., pulse 110, temperature 27 3-10; 6 p. m., pulse 104, temperature 37 8-10.

Nov. 7th, 8 a. m., pulse 100, temperature 37°; patient feels well, wants to get out of bed, thinks she is able to be up; ordered 5 gr. doses of bromide of potassium, for a slight smarting sensation after passing water.

Nov. 8th, 8 a. m., pulse 110, temperature 37½; 1 p. m., restless, gave ½ gr. of svapnia; 6 p. m., pulse 118, temperature 38°; gave a cathartic of castor oil.

Nov. 9th, 8 a. m., pulse 125, temperature 37½°; 6 p. m., pulse 124, temperature 38½°; bowels moved at 3 p. m.

Nov. 10th, 8 a. m., pulse 112, temperature 37½; ordered 4 gr. doses of cinchonidia every four hours.

Nov. 11th, 8 a. m., pulse 102, temperature 37½.

Nov. 12th, 8 a. m., pulse 110, temperature 37°; is permitted to sit up two or three hours in the day. After this the patient rapidly improved, and is now quite out of danger.

E. R. WILLARD, M. D.

WILMINGTON, November, 1877.

NOTES FROM HOSPITAL PRACTICE.

Carcinoma of Tongue.—Partial Ablation.

A remarkable case of epithelioma of the tongue recently came under the notice of the staff of the Albany (N. Y.) City Hospital. The patient, J. D., æt. 74, Irish by birth, and mentally infirm, came to the hospital in January, 1877. He gave no history of his lesion, but a malignant growth was discovered on the under surface of the left side of the tongue, involving nearly one-half of the organ. Ulceration had already begun, and had resulted in a considerable excavation, while the body of the tongue was hard and semi-indurated. There was the characteristic pain of carcinoma, sharp and lancinating at night after exertion, heavy and dull in the early part of the day. The tongue still retained its normal size, and preserved its natural color, save in the diseased portion, where it was superficially of a brownish-gray hue. Deglutition was impaired even then, and articulation was

difficult, every word being muffled and indistinct. The general health, considering the age of the patient, was far from good, and though he was in good spirits, it was clear that the disease was progressing.

Dr. Vanderveer, of the staff, diagnosticated a carcinomatous lesion, and it may be said that any other diagnosis would have been impossible. It was a case of carcinoma, of epithelial type, in a most difficult location for topical treatment, already so far advanced as to present formidable features.

The treatment proposed was necessarily severe. A cure was virtually impossible. Alleviation was the only alternative.

Electrolytic treatment by the use of the galvanic cautery was tried on six several occasions. At first the advance of the disease was arrested, and seemed under temporary control; but the disease spread insidiously, gradually involving more and more of the tissues, and provoking sympathetic enlargement of the cervical glands. On Oct. 27, the cautery was used for the seventh time, and then abandoned as useless. In the ten months that had passed since the patient's entrance to the hospital, although the carcinomatous cachexia had become more actively developed, his systemic condition was better than one year before.

A consultation of the hospital staff was held, and the operation of ablation of the tongue was deemed advisable so far as to remove the diseased growth. This operation was performed Nov. 14, by Dr. Albert Vanderveer, assisted by Drs. Ward and Hailes.

The patient anæthetised, the tissues from the middle of the lower lip were divided in a perpendicular line to the symphysis mentis, and reflected. The inferior maxilla was then sawn in two at the symphysis, after the method of Syme. The fore-finger of the operator was then inserted into the opening under the tongue, and the knife thus guided, used to divide the mucous membrane of the mouth and the sub-lingual muscles.

The lingual artery of the affected side was ligated and divided, the hemorrhage being thus almost entirely arrested. These preparatory steps being successfully performed, the diseased growth was laid before the surgeon ready for action.

The galvanic cautery, in the form of a loop of platinum wire, was applied around the diseased part of the organ, and by two operations the morbid tissues effectually cut away, about one-third of the tongue being left. The hemorrhage was inconsiderable, and the operation satisfactory in all respects to the surgeon and his assistants. A number of physicians were present to witness the operation.

The patient presents a favorable prognosis, and permanent success may be hoped for. W. H. M.

ALBANY, N. Y., Nov. 15.

Society Reports.

Indiana, Illinois and Kentucky Tri-State Medical Society.

The Third Annual Session of this Society was held in the city of Evansville, Ind., Oct. 16, 17 and 18, 1877.

The Society was called to order at 11 a. m. by Dr. J. W. Compton, Chairman of the Committee of Arrangements, Dr. G. B. Walker, acting as chairman *pro tem.*, Dr. G. W. Burton, Secretary, Dr. J. W. Singleton, Assistant-Secretary, Dr. F. W. Beard, Corresponding Secretary.

After prayer by Rev. Dr. C. B. H. Martin, Hon. J. J. Kleiner, Mayor, followed with a speech of most cordial welcome in behalf of the city. Dr. M. J. Bray followed with an address in behalf of the profession.

He gave the Society a brief medical and local history of the "Crescent City of the North," with his own experience in the earlier days of Evansville, drawing a comparison between ancient and modern medicine.

(When the doctor located in Evansville the principal hotel was a "one-story log hut.")

Adjourned until 2 p. m.

The Society was called to order pursuant to adjournment, by Dr. W. H. Byford, the President. Dr. J. S. Jewell, of Chicago, being called upon to address the Society, gave a brief extemporaneous account of the vaso-motor nervous system. The

Doctor presented several practical considerations of importance in his remarks.

Dr. W. S. Porter, of St. Louis, Mo., then read a paper on "Syphilis of the Air Passages." After a discussion by Drs. T. Keller of Hot Springs, Ark., Hibberd, of Richmond, Bray, Lenthicum, Walker, Jones and Owen, of Evansville, the opinion prevailed that the disease was transmitted to the offspring by the male parent.

Dr. J. W. Compton then read a paper on "State Medicine and Hygiene;" dwelling particularly on epidemic cholera, small-pox, typhoid fever and epidemic dysentery; urging the necessity of a State Board of Health. The Chair appointed Drs. Denning, of Ill.; Letcher, of Ky., and Beard of Ind., a committee on time and place of next meeting.

Adjourned until 7:30 p. m.

The Society met pursuant to adjournment.

Dr. G. B. Walker read a paper entitled, "Observations and Experience in Practice, Particularly with Reference to Obstetrics;" which included a report of 824 cases, giving the per cent. of different presentations, instrumental cases, eclampsia, post-partum hemorrhage, etc. The President compared it to the relation of a soldier's experience after a long and honorable campaign.

The President appointed the following Committee on Nominations: Drs. Gerrish, Indiana; Pritchell, Kentucky; and Fairbrother, Illinois.

Adjourned to 9 a. m. Wednesday.

Wednesday—Second Day.

Society called to order at 9 a. m., Dr. Byford in the chair.

Dr. J. F. Hibberd, Richmond, Ind., read a paper on "The Instinctive Operations of the Human System, and how they may be Utilized in the Management of Certain Diseases, and more particularly in Functional Intestinal Constipation."

The Doctor defines instinctive operations thus:

"When a child is born, on the instant it breathes and cries. Both these operations are demonstrated instinctive, because they are performed by a living being from unreasoning impulse,

unconsciously and involuntarily. The operations of defecation, micturition, and nursing, which follow in early succession, are of the same nature."

Dr. J. W. Singleton, Paducah, then read an essay on "Social Conservatism."

Adjourned to 1 p. m.

The Society met pursuant to adjournment.

Dr. Singleton (by request) read a paper by Dr. J. L. Cook, Kentucky, on "Malarial Coma."

Dr. J. J. A. Ireland, Louisville, Ky., read his report to the Section on Obstetrics and Gynecology, relating to "Some of the duties of the Obstetrician and Gynecologist." The Doctor drew a pen picture of the great works in this department of medicine.

The Committee on Nominations reported the following officers for the ensuing year:

President, J. F. Hibberd, Richmond, Ind.; First Vice President, F. W. F. Gerrish, Seymour, Ind.; Second Vice President, J. W. Singleton, Paducah, Ky.; Third Vice President, H. C. Fairbrother, East St. Louis, Ill.; Secretary, G. W. Burton, Mitchell, Ind.; Treasurer, F. W. Beard, Vincennes, Ind.

Committee on Publication—Drs. Compton, Walker, and Lenthicum, of Evansville.

Standing Committee: Surgery and Anatomy—J. W. Thompson, Kentucky; Practical Medicine—S. H. Charlton, Indiana; Obstetrics and Gynecology—J. Hale, Kentucky; State Medicine—J. H. Letcher, Kentucky.

Special Committee—Influence of Thermal Waters in the treatment of Disease: J. M. Keller, Hot Springs, Ark.

The report was unanimously adopted.

Dr. Dudley S. Reynold, of Louisville, then read a paper on "Cistoid Cicatrix."

Dr. S. E. Munford, Ind., followed with an essay in answer to the question, "Is meddlesome midwifery bad?" (The discussion growing out of the question would lead young practitioners to believe that the profession are not agreed upon all points.)

The President appointed as a Committee on Necrology, Drs. Hibberd, Smith and Pennington, to report upon the loss of the

Society, in the death of Dr. Ezra Read, and Dr. J. B. Armstrong, of Terre Haute, Ind.

Dr. Edwin Walker then read a report on "Syphilis of the Nervous System."

Adjourned to 7:30 p. m.

At night the old Cumberland Presbyterian church was filled to its utmost capacity, to hear the address of the President, Dr. W. H. Byford, on "Some of the Evils Resulting from our Rapid Advance in Civilization." The Doctor's address was well received by the profession, and by the citizens of Evansville. Adjourned to 9 A.M., 18th.

The Society met pursuant to adjournment, the President in the chair.

Dr. J. H. Letcher, of Ky., read a paper on "Intestinal Inflammation in Children." Dr. J. E. Harper, Ind., presented a report on the "Anomalies of Accommodation and Refraction." Dr. L. B. Harvey, Indianapolis, presented a paper on "The use of the Elastic Ligature in the Treatment of Various Forms of Fistula." Dr. J. M. Keller, Hot Springs, Ark., spoke briefly of the success of the Tri-State Society, and its valuable results to the profession. Dr. T. M. Stevens, Indianapolis, read a paper entitled, "Some Thoughts Connected with the Public Health of Indiana." Dr. G. W. Bental presented a short paper entitled, "Facts for the People." Drs. Stevens, Compton, and Burton, were appointed a committee to prepare the papers on State Medicine, and have them published in the journals.

Dr. Byford introduced his successor, Dr. J. F. Hibberd, of Richmond, Ind., who gratefully acknowledged the honor bestowed on him.

On motion of Dr. Letcher, Ky., the thanks of the Society were unanimously tendered Dr. Byford, for the faithful performance of the duties of his office. Adjourned to meet in the city of Springfield, Ills., 2d Wednesday in Nov., 1878.

G. W. B.

The BRAINARD DISTRICT MEDICAL SOCIETY, met in November, 1877, with thirteen members in attendance. Dr. M. Hurst, of Sweetwater, read a paper describing a case of compound fracture

of the tibia and fibula; Dr. H. B. Brown reported a case of popliteal aneurism; Dr. J. D. Whitley, of Oakford, reported a case of belladonna poisoning; Dr. J. P. Walker reported a case of tubal pregnancy; Dr. M. Hurst described two cases of shoulder presentation; Dr. Walker read a communication from Dr. Jennings, of Delaware, containing a report of a case of vesico-vaginal fistula, and a paper by himself on the use of the obstetric forceps.

A resolution was adopted, making the CHICAGO MEDICAL JOURNAL AND EXAMINER the official organ of the association.

Editorial.

MEDICAL CIVIL SERVICE REFORM.

In the day when the much vexed question of civil service reform is testing the cohesiveness of the great political organizations of this country, it is proper that medical men should enquire respecting the operation, as regards themselves, of the principles which at present control in civil appointments.

Looking at the medical corps of the military establishment, we find a body of men eminently fitted in all particulars for the discharge of their important functions. They command the high respect of the profession at large and of their associates in the "line" of the army and navy, achieving for themselves abroad a reputation based upon scientific and literary contributions of the greatest value. All this is the natural result of the operation of a very simple law. The positions of these gentlemen are obtained by success in competitive examinations. Of all applicants those best qualified, mentally, morally and physically, secure commissions. This is the system which prevails in Europe, and in accordance with which every medical man, from the hospital interne to the university professor obtains position.

By an unhappy inconsistency, the principle which was deemed essential to the welfare of the military service, and which has there produced such admirable fruit, has been utterly disregarded in the selection of medical men for the civil list. In the marine

and pension services, surgeons and assistant-surgeons become such by political preferment. Not only in the offices of the general government but in those also of the states, cities and counties of our country, the appointment of physicians is determined by a system which has produced results that are often not merely deplorable, but positively disastrous.

Here in the State of Illinois, the county of Cook, and the city of Chicago, the consequences of such a policy have been sufficiently conspicuous to be seen and read of all men—consequences which are at once a reproach to the profession and a scandal to the public. There is no need of mincing words when dealing with a great outrage of this sort. Medical men have been appointed to office because of their political influence or affiliations; or because they were relatives of those in power, or to satisfy the greedy clamor of the applicants themselves, or for purely private and personal reasons; never solely because they were fit and qualified.

By that singular chance which occasionally evolves good from evil, and produces a rose-tree upon a dunghill, some of these offices have been held by worthy men. But what shall be said of the rest—some, the feeble and superannuated relics of a past mediocrity; others, disappointed aspirants for private patronage, who seek to supplement their failure by pickings from the public purse; professional incompetents and impotents; disciples of drink, who are not ashamed of their intoxication upon the public thoroughfares; students of medicine unprovided with a diploma, and even without that cheap-jack sort of education which too many diplomas attest; country practitioners removed to the city solely because an enterprising and not too scrupulous relative embarked in politics—the tale cannot be fully told! It is but a few weeks since a judge upon the bench had occasion to condemn the inefficiency of one of these folk.

Meantime, the large body of medical men have been either too much absorbed in their private business to bestow any attention to this subject, or, recognizing the evil, have contented themselves with characterizing in private, the farce played before the public. Many such have signed applications for the appointment of others, from indolence, fear of offending a friend, or from ignorance of the incapacity of the applicant.

Only they who think success possible for themselves, will submit to competitive examination, when merit is to decide the issue; and only these, in a similar way, will compete in the base struggle for office, who are conscious that they possess the requisite talents—the ability to push, to beg, to fawn; to descend to the level of the creature of the dram-shop and the bar-room politician.

There is not an office for which a medical man is required, within the territorial limits of the State, which should not be assigned to the successful competitor in examination. There is not, to-day, a competent medical officer within the same limits, who should not retain his position, so long as he faithfully and efficiently discharges its duties. He also who is worthy, should be advanced from the lower to the higher grade of duty. How much honor would a medical staff, thus constituted, reflect upon the body of the profession in this State! What a laudable ambition might be excited in the mind of the student of medicine by the contemplation of the just reward of indefatigable industry!

In the absence of any provisions to insure such a result, medical men should see to it that they put themselves right upon the record. They should not for a moment countenance the prevailing loose, and often disreputable, methods of obtaining office. A notable and honorable precedent was recently established by the Governor of Illinois, in convening the medical profession of Chicago, with a view to the nomination of a member of the State Board of Health—the nominee in this instance having received the appointment. Let the profession at large regularly nominate, by such methods as they think will secure the desired end, proper men for all medical offices, and, whether their nominations are or are not accepted, the result will be to secure a popular approval of their efforts at reform.

We are not so credulous as to suppose that the contemplated results can be accomplished in an hour. But it is one of the redeeming features of our crude aud defective system of self-government, that agitation always insures some sort of reform. In the matter of slavery, the people of the United States began by stoning the apostles of abolition, and concluded with radical and irrevocable emancipation.

And we cannot but believe that if the mass of medical men are thoroughly aroused to a sense of their high privilege and duty in this matter of medical civil-service reform, they will, in the end, accomplish the much-desired result.

Correspondence.

LETTER FROM PARIS.—THE EMPLOYMENT OF THE SALICYLATE OF SODA FOR RHEUMATISM, GOUT, ETC., IN SCOTLAND, FRANCE, AND GERMANY.

There is probably no disease in the whole nosology, that has had so many vaunted remedies brought forward from time to time for its treatment, as acute rheumatism; each in its turn enjoying a brief period of popularity, and sinking into obscurity after being tested and failing to meet the expectation of the profession.

Most of us who have been in practice for a term of years, can remember some case of this disease, in the management of which we have failed to secure the good opinion of our patient.

Among the last of the remedies that have been brought to our notice for the treatment of this most troublesome disease, are salicin and the salicylates.

Since my arrival in Europe, I have taken every opportunity to consult the leading physicians in the different hospitals that I have visited, in order to gain from them their views in regard to the efficacy of these remedies in the treatment of the above disease.

My first observations and inquiries were made at Edinburgh and Leeds, and the facts that I there elicited were published in an article that I contributed to the New York *Medical Record* of Sept 1st, 1877, and from which I shall draw in part in what I shall have to say in this communication.

In Edinburgh I found the remedy in poor repute.

Prof. Sanderson declared to me that, after trying the salicylic acid to his entire satisfaction, he had become convinced that it was worse than useless in the treatment of acute rheumatism, on

account of its tendency to derange digestion, and lower the vitality of the patient, without eradicating the disease for which it was given.

After testing alkalies with the same unsatisfactory results, he now treats the disease entirely expectantly, shielding the parts involved from the air by carded wool, over which he applies oiled silk, administering anodynes to relieve pain when urgently demanded.

But, from what I have since learned, I am more than suspicious that his want of success arose from his not using the remedy in an efficient manner. Moreover, the preparation that he employs is not that which is preferable.

It will be seen from the title of this article, that I refer only to salicylate of soda. I do so in order to impress the reader with the idea, that this preparation of the salicylates, and this one *only*, should be used in the treatment of acute rheumatism, for reasons that I shall take occasion to mention.

In Dr. Jacobhouse, physician to the Leeds Infirmary, I found one of the most enthusiastic students I ever met, and would add that he who travels through Europe for the purpose of making hospital and clinical observations, and does not, when in this city, visit the Leeds Infirmary, will have reason to regret it.

Dr. Jacobhouse, when I first made his acquaintance, had just concluded a series of observations on the treatment of rheumatism by the salicylates, and he entered at once into the spirit of my inquiries and gave me every assistance in his power.

His statistics included seventy-seven cases of acute rheumatism treated by the remedy under consideration.

In forty-five of these cases, the action of the drug was so marked that its value could not be doubted.

In these 45 cases the average duration of the disease was only three days, the longest being seven, and the shortest one day.

But in the whole 77 cases there were only five in which the remedy proved an entire failure.

Three of these proved fatal, two from the accession of typhoid symptoms, and one from the supervention of a cerebral complication.

The two classes of cases least benefited by the drug, were those of moderate severity, and those in which there existed extreme hyperpyrexia.

In the last mentioned class of cases, the cold bath was added to the other treatment with excellent results.

Cardiac complications supervened in only two out of the 77 cases after the treatment was begun.

In the management of the patients, the plan pursued was to allow them to remain in the wards well covered up in bed for from one to three days, before any active treatment was instituted. This was done in order to observe whether the disease was one of a true rheumatic character, or only an abortive form of the complaint.

The doctor tested, in the treatment of these cases, salicin, salicylic acid and the salicylate of soda; and although each exercised a powerful influence in arresting the disease, he believes that the last mentioned preparation acted most energetically, and, as it is the most pleasant to the taste of the patient, as well as least disturbing to the stomach, he gives it the unqualified preference.

The plan pursued was to put the patient upon the salicylate of soda in thirty grain doses every four hours, until the temperature was reduced to the natural standard, and all other symptoms ameliorated.

After this result had been obtained, the remedy was given three times a day for a week or ten days, to prevent a relapse.

In looking over the records of the cases, I found the influence of the remedy upon the temperature of the patients was most marked. In 40 of them it was reduced to the natural standard within twenty-four hours, and never arose again.

If the remedy produced symptoms akin to cinchonism, the dose was reduced, but not discontinued.

In London I did not find any enthusiasm among those with whom I conversed on the subject, in favor of the salicylic treatment of rheumatism.

Even in so late a work on the Practice of Medicine as that of Dr. Bristowe, an article on acute rheumatism, only refers to the remedy in these words: "Salicylic acid in hourly doses of from

7 to 15 grains, has recently been largely employed, especially in Germany, with reputed success."

The author proceeds to recommend the use of free diluents in the form of lemonade, keeping his patient warm in bed, as a principal resource in the treatment of this disease.

When I arrived in Paris, I found the subject of the therapeutical effects of the salicylates under discussion before the Academy of Medicine, which discussion was elicited by a series of original articles read before that august body, by Prof. Germain Sée. These papers were all published in *La France Médicale*, and as I not only translated these, but also interviewed on several occasions, Prof. Guéneau de Mussy, of the Hôtel Dieu, I proceed to give below in a greatly condensed form, some of the facts elicited.

After a learned account of the discovery of salicin in 1830, by Leroux of Vitry, in France, the author of the paper dwells at some length on the different salicylates, as well as the diseases for which they have been given, and, summing up his experience in their use, says: "It is the salicylate of soda that I now almost exclusively employ."

A large number of experiments upon animals, to test the physiological effects of the remedy, are detailed at length.

These experiments demonstrate that it is a most powerful agent, and one that should be used with care.

Rabbits, in whose veins were injected from 1 to 2 grammes of the salicylate of soda, died after two or three of such injections, death being preceded by extreme dyspnœa and convulsions.

One case was reported of an old man, who died after administration of the drug in large doses, and in whose case, a suspicion at least arose, as to whether his death had not been produced by the medicine. The effects of the remedy on the temperature of animals were almost nil. In animals without fever, the remedy given in large doses, only lessened the temperature, on an average, 9-10°.

Furbringer injected pus into the blood of sixteen dogs, to produce septic fever, and then gave the salicylates to test their influence in lowering their temperature. It was slightly diminished in 9 cases out of 16.

Prof. Sée therefore concludes, that the effect of the remedy in abating the temperature of the body, is only such as is produced by its disturbing influence on the circulation and respiration.

Its action upon the kidneys is most marked, and it is probable that its efficacy in lowering the temperature in rheumatism, is due to its action in eliminating through these organs, the *materies morbi* upon which the disease depends.

Ten minutes after the medicine is given, it may be discovered in the urine by adding a very weak solution of the perchloride of iron to that fluid, giving a violet color.

It is also eliminated from the system so rapidly by the kidneys, that to keep up its effects, the doses must be frequently repeated.

So powerfully does it stimulate these organs that those who discussed the subject at the Academy were generally of opinion that it should be used with great care where any kidney lesion exists; and, as a precautionary measure, we are recommended to test the urine before beginning the use of the remedy if there be the least suspicion of kidney disease.

Prof. Sée says on this subject: "If there exists any renal lesion it is necessary to prescribe the salicylic acid with great prudence, without which, even with a small dose, accidents may supervene."

The dose seems to be a matter of extreme importance; for, while the remedy is an active one, and may poison patients if given too largely, on the other hand, when given too sparingly, it may fail to produce any curative effect upon the rheumatism.

M. Sée gave his patients from eight to twelve grammes in the twenty-four hours. with the most happy results; while M. Oulmont, who gave only four grammes in the twenty-four hours, found no benefit from the remedy in the treatment of the same disease.

"If given in sufficiently large doses to produce its physiological effects (salicysm), we have inebriety, noises in the ears, and sometimes staggering."

We now pass to M. Sée's observations in "the treatment of rheumatism and gout by the salicylates."

After giving Stricker, of Germany, the credit of having first brought to the notice of the profession the use of these remedies

in acute rheumatism, and acknowledging that his residence on the other side of the Rhine has prevented his views from being sooner adopted in France, he details his experience by an analysis of the following cases:

There were in all 52 patients suffering from acute rheumatism, 44 in the hospital and eight in private practice.

Six grammes of the salicylate of soda dissolved in 200 grammes of water were given five times in the twenty-four hours.

To quote M. Sée's exact words as to the results, he says: "Now in all these cases the duration of attacks treated by the salicylates did not exceed three days. There was not one single exception.

"The age of the patient did not change the result in the least.

"In the case of two children, the one 8 and the other 12 years of age, I prescribed the remedy in doses of from 1 to 3 grammes every hour, and the success was complete in two days.

"Rheumatism existing two, four, eight, and fifteen days was arrested at the end of two or three days.

"This is what we generally observe:

"The cessation of the pain; this generally abates in from twelve to eighteen hours, and the phenomenon was constant.

"The articular inflammation disappears in from one to three days.

"Movement again becomes free and easy by the third day.

"I have seen patients whose inferior extremities had been entirely immovable, get up at the end of two or three days."

On the necessity of continuing the treatment after the patient is apparently well, M. Sée says: "Nevertheless the treatment cannot be considered as complete, unless it be continued for ten or fifteen days at least; without which a relapse is inevitable. The reason of this is the rapidity with which the remedy is eliminated from the system.

"I sometimes suspended the treatment on purpose; and when the relapse occurred, I prescribed anew the same medicine, and the same effect followed as at first.

"I sometimes repeated this experiment two or three times on the same patient.

"I will conclude by saying that relapses never occur when we continue the treatment."

On the influence of salicylic treatment in the cardiac complications of rheumatism, M. Sée observes:

"Does the salicylic treatment exercise an influence favorable or unfavorable on the development or course of the complications and accompaniments so frequent in acute articular rheumatism?

"In those who entered the hospital in the three first days of the disease, I have not seen developed a single case of inflammation either of the pericardium or endocardium; and it may be logically inferred that, if the remedy 'strangles' the disease, we anticipate the invasion of the membranes of the heart."

He acknowledges, however, that the immunity from heart disease in the cases that he treated, is not corroborated by the German physicians who used the same remedy; but he thinks the reason for the difference is owing to the vacillating manner in which the latter employed the medicine at the outset.

In those patients who, from long continuance of the complaint before the treatment was begun, or from a previous attack of the disease, had already cardiac lesion, no influence seemed to be exerted by the salicylates as far as such complications were concerned.

M. Sée closes his remarks on the results of the salicylic treatment of acute rheumatism, by contrasting them with the records of 108 cases treated by the ordinary method now in vogue.

"Of these 108 cases, 10 had a duration of from 5 to 15 days; 58, from 16 to 20 days; 40, from 36 to 55 days, and upwards; therefore, 10 out of every 108 cases, get well in from 5 to 15 days, and 98 out of every 108, may expect their recovery on an average of 36 days."

Certainly if statistics are worth anything, these results are stupendous; in fact, nothing better can be desired.

In my interviews with M. Guéneau de Mussy, though I found him a warm advocate of the salicylates in rheumatism, his results had not been as flattering as those of M. Sée.

Chronic Rheumatism.—Though the number of cases recorded by M. Sée of this type of rheumatism treated by him, are not sufficiently large, perhaps, to warrant his enthusiastic deductions,

yet, in view of the unsatisfactory character of the results that we generally obtain from any hitherto known remedies for the treatment of this disease, the results will certainly gain for his assertions a careful hearing and a disposition to test their accuracy.

The remedy was prescribed in the same dose as for the acute form of the disease. M. Guéneau de Mussy gives ten grammes three times a day of the salicylate of soda.

M. Sée says:

"My expectations were realized in a most happy manner. The attack disappeared exactly as in acute articular rheumatism, at the end of three or four days.

M. Bouchard has succeeded in four old men in the same happy manner.

"A patient who had had general chronic rheumatism for eleven years, confining him to his bed for from four to six months of each year, after six days' treatment was able to leave the hospital, all his joints unaffected.

"In five private patients, I observed exactly the same phenomena; the tumefactions of the joints which had existed for several months, and in one for three years, disappeared at the end of six or eight days' treatment.

"The medicine was kept up for a month."

Of course M. Sée does not claim these brilliant results in patients whose joints have undergone extensive organic changes from the ravages of this disease; but even in these, sub-acute paroxysms, to which they are so liable, can be promptly relieved by salicylic treatment.

Gout.—In the application of this remedy for the treatment of this disease, both in its acute and chronic forms, M. Sée's observations claim entire originality.

Not only do all the painful and inflammatory symptoms disappear, but also the chalky deposits about the joints are absorbed, and patients who have been such sufferers, that life had become a burden, walk forth after a few weeks use of the remedy, restored anew to health, and freed from one of the most painful disorders to which the human family is subjected.

Lumbago and Sciatica.—The fact elicited from the discussion

of the therapeutic effects of this remedy at the Academy, were somewhat conflicting as to its efficacy in the above diseases; but the opinion prevailed that as the cause that produced them was often rheumatic in character, it should always be given an early trial in their management.

Typhoid Fever.—From the known properties of the drug in arresting septic changes when applied locally, as well as on account of its reputed value in lowering the temperature of the body, great hopes were entertained that in it we should find a valuable auxiliary to our other modes of treating this most formidable disease.

But most of those who took part in the discussions at the Academy of Medicine, were not enthusiastic as to the results that they had attained.

M. Sée took the ground that the medicine is not an antipyretic in the general acceptance of that term, and that the remedies given by the stomach, with a view to their acting antiseptically upon a portion of the intestines, so remote as that effected in this disease, could not be relied upon.

Neuralgia.—M. Sée found the drug act as a decided anodyne in most nervous diseases, and used it with success in a number of cases of the above disease.

He often substitutes it for the different preparations of opium with the happiest results.

W. S. CALDWELL, M.D.,

PARIS, October, 1877. *Of Warren, Ills.*

Reviews and Book Notices.

THE EAR: ITS ANATOMY, PHYSIOLOGY, AND DISEASES. By Charles H. Burnett, A.M., M.D.; Henry C. Lea, Philadelphia, publisher.

The author of this work may be congratulated on having accomplished the task of presenting to the profession, clearly and concisely, the present aspect of otology.

It is a more than ordinary pleasure to review a book in which

there is so much to be commended and so little to be criticised, as in this.

Especially is this so in this case, since, until so recent a date, the field here covered was characterized by noticeable absence of any reliable or satisfactory information.

The anatomy and physiology, as here presented, give the reader the benefit of the most recent investigations in both, and prepare the way satisfactorily for the pathology, therapeutics, and surgery which follow.

In addition to imparting the latest reliable information, he has sought to utilize well-known facts, by showing their practical application—rather than to group together vague uncertainties, for the sake of supposed novelty. Where he is not convinced of the practical value of proposed methods of treating disease, it is frankly stated, and the reader is left to draw his own conclusions.

Regarding the non-suppurative inflammations, especially the chronic form, involving the middle ear, one could have wished that the author might have felt himself justified in speaking more confidently as to treatment and prognosis. Since these affections have been distinguished from so-called nervous deafness, and been assigned their proper place among diseases of the conducting apparatus, the results of treatment have been more satisfactory, but our prognosis still savors of the doubt that we have been so long accustomed to feel regarding them, and this has a tendency to restrain our efforts in their behalf.

Whilst, in some respects, the author's experience has seemed to differ from that of other aural surgeons, his position is so presented as to challenge respect for it from those who may feel that they must, though reluctantly, disagree with him as to some of the views held.

The article on suppurative affections gives additional urgency to the reasons so often adduced why they should not be neglected in the future, as they have been in the past, notwithstanding the disastrous, and sometimes fatal results, which have followed neglect or improper treatment of them.

The course of treatment advised is, in the main, wise and judicious, and is the result of intelligent observation of the effect of such treatment.

The section on deaf-mutes and partially deaf persons shows a step forward and in the right direction. It may safely be assumed, as stated, that the statistics regarding the deaf and dumb are greatly wanting in accuracy, and our conclusions having so long been drawn from fallacious premises, have been and must be erroneous.

The defects which prevent hearing, and thus produce muteness, are so much more frequently acquired than congenital, and are so often remediable, that it is to be hoped that greater efforts may, in future, be made to remove the cause of this affliction, instead of limiting our work to trials to reduce the resulting disadvantage, and to treat more frequently and more successfully the conditions on which deafness and consequent muteness depend.

The publisher of the work has issued it in a form worthy of a book that is destined to do so much good and so little harm.

S. J. J.

PUBLIC HEALTH REPORTS AND PAPERS, Vol. III. Presented at the meetings of the American Public Health Association in the years 1875–1876.

This is a collection of essays read before the American Public Health Association, at its annual meeting in Boston, September, 1876. They treat of various topics in which sanitarians are supposed to feel an interest. As might be expected, the comparative value of the different papers is very unequal — some of them being quite interesting, while others form the most commonplace kind of "padding." In this connection it may be observed that the bulk of the present volume is far less than that of its predecessors; and it is to be hoped that the future volumes may experience a still greater condensation. So far as the writers deal in descriptive effort, such as may be found in the essays which treat of the slaughter-house system of New York and Boston, their work is fairly well done. The statistical papers which, like Dr. Woodworth's, bring together a number of figures and estimates which are not easily accessible, are of value to those who desire such information. It is in the scientific and theoretical departments that the poverty of the volume is most conspicuous. It really seems hardly worth while to be at the

expense of thus publishing scraps of science, some of it of doubtful quality, which can be found more recently and freshly set forth upon the pages of the numerous scientific periodicals which are found on the shelves of every student. It is really no compliment to the intellectual equipment of the average health official to suppose that he is in need of the tardy and intermittent supply of knowledge which filters through such a series of volumes. In fact, it is one of the misfortunes of such a publication that it addresses itself to no large constituency of readers. For the leaders of science it possesses very little worth; and for the mass of uninstructed readers its contents are not presented in a sufficiently available form. For example, the admirable discourse on Food, by Dr. Flint, contains nothing which is not well known to the majority of educated people. It is, therefore, hardly worth while to fill so much space with utterances which in this volume are practically withdrawn from the classes to which they might profitably be addressed. A public health association which would expend its energy in the emission and wide circulation of tracts of a popular character, like Dr. Flint's address, would accomplish far more good than can ever be effected by the annual publication of a single heavy volume which nobody will read.

It is not pleasant to be obliged to speak thus of work which is the offspring of the purest philanthropy the world has ever seen. To lie in idleness, and to hear only the salt sea-waves rippling over the pages of Dr. Gibson's breezy essay, would be far more agreeable; but if the feelings are allowed to run away with one's reason, there is an end of scientific progress. A book for which so much is claimed demands more than ordinary scrutiny.

As already stated, the best features of the volume are its descriptive portions. Its contributors have a keen eye for filth—a sharp nose for sewer-gas. But as for any attempt to penetrate to the deep underlying causes which control the origin and the prevalence of disease, it scarcely appears. Knowing little, apparently, of these great world-causes, and of the wonderful system of checks and counter-checks in which such causes play so conspicuous a part, these gentlemen very naturally turn for relief to artificial, human institutions. Ignorant of natural law,

they would have us seek refuge under the wing of the immaculate police-justice, and they call loudly for fines and for legal processes, with which to "stamp out" disease. Some of our sanitarians, indeed, seem never to be thoroughly happy unless they can be hauling some one before the courts, and can parade a list of punishments for constructive offenses longer than the moral law. In pleasing contrast with this style is the excellent paper on Vaccination, by the distinguished President of the Association, Dr. Elisha Harris. The statesman-like way in which he treats this difficult subject is above praise, and stands in delightful opposition to the methods of the ordinary official. And yet Dr. Harris does not penetrate to the bottom of his subject, and fails to make clear the reasons which have hitherto prevented the success of every effort in this country to imitate the universality with which vaccination is performed in Europe—reasons which are inherent in the nature of our political and social institutions, and which produce difficulties that can only be overcome by a radical and far-reaching change in these institutions. Before that change is undertaken, it will be surely worth while to inquire whether the game is worth the candle. It is this neglect to "think things through" to their ultimate logical consequences which vitiates the writings of so many of our most enthusiastic sanitary reformers. They are very apt to take under consideration every thing but human nature, or some other equally important factor in the problem of sanitary administration. There is something sublime about the innocence with which the average sanitarian, on discovering some great abuse which human law has failed to abate, tarries not to ask why despotic statutes have become a "dead letter," but straightway lifts up his voice, American fashion, and cries for more laws and for a more stringent despotism. This carelessness relative to personal liberty is the more inexcusable since the great principles which underlie all these vexed questions of sanitary administration have long ago been thought out and fought out on another field. But too much of our sanitary legislation has been the hastily begotten offspring of panics and emergencies; and, like all such legislation, is not adapted to the ordinary conditions of mankind. There ought to be a statute of limitations to secure the self-

extinction of such dangerous laws within a definite period. But there is nothing of the kind, and our only practical mode of deliverance lies in the common sense of the community, which sooner or later, in every free country, forces injudicious enactments into a "dead letter" obscurity. Unfortunately, however, this does not remove such laws from the statute-book; consequently, whenever any little blind giant wishes to achieve a cheap notoriety by swinging a big club, he is sure to find one ready made for his hand. Here will be found a large field of usefulness for our State Boards of Health. They will do good service if they will wisely review our sanitary legislation, and will thoroughly prune away everything incompatible with reason and justice.

Considerations of this kind seem to have occupied the mind of Dr. Billings, who has contributed an essay on The Rights, Duties and Privileges of the Community in Relation to the Individual.

He expresses the opinion that the time has come for the evolution of the Sanitary Lawyer. I would suggest the need of something even higher — the Sanitary Statesman. Experience shows — and the volume now under consideration is rich in proofs of the fact — that the average doctor and the average legislator cannot be trusted with the production of sanitary laws for the community. The problem, though simple enough, seems to be beyond the grasp of the ordinary intellect. It is hard to convince your thorough-going philanthropist that with the very best of intentions he may be sowing the seed of unnumbered evils. But all history is full of similar examples; and the worst despotisms have often been the work of the best of men. These sanitarians will bear watching; and while we thank them for the good they do, they must cheerfully yield their work to criticism if they would retain the respect and the sympathy of the profession from which the greater number of them came.

H. M. L.

BOOKS AND PAMPHLETS RECEIVED.

Transactions of the New York Pathological Society. Vol. II. Based on the proceedings of the year 1875 and, largely supplemented from the records of 1844–1877. Edited by John C. Peters, M. D., President Medical Society County of New York. New York: William Wood & Co. 1877. 8vo.; cloth.

Transactions of the International Medical Congress of Philadelphia, 1876. Edited for the Congress by John Ashleman, Jr., A. M., M. D. Philadelphia: Printed for the Congress. 1877. 8vo.; cloth, pp. 1153.

Transactions of the Medical Society of the State of Pennsylvania at its Twenty-eighth Annual Session, June 13, 1877. Vol. XI. Part 2. Philadelphia: Collins & Co. 1877. Paper, 8vo.; pp. 830.

Materia Medica for the Use of Students. By John J. Biddle, M. D., etc. Eighth Edition. Revised and enlarged, with numerous illustrations. Philadelphia: Lindsay & Blakiston. 1878. 8vo.; cloth, pp. 462.

A Compend of Diagnosis in Pathological Anatomy, with Directions for Making Post-Mortem Examinations. By Johannes Orth. Translated by F. S. Shattuck, M. D., and George Kraus Sabine, M. D. Revised by Reginald Heber Fity, M. D., with Numerous Additions from MS., Prepared by the Author. Sole authorized English edition. New York: Hurd & Houghton. Boston: H. O. Houghton & Co. Cambridge: The Riverside Press. 1878. 8vo.; cloth.

Modern Medical Therapeutics; a Compendium of Recent Formulæ and Specific Therapeutical Directions from the Practice of Eminent Contemporary Physicians, American and Foreign. By George H. Napheys, A. M., M. D., etc. Fifth edition, enlarged and revised. Philadelphia: D. G. Brinton. 1878. 8vo. cloth; pp. 600. Cloth, $4; full leather, $5.

The Action of Medicine. By Isaac Ott, A. M., M. D., etc., etc. With twenty-two illustrations. Philadelphia: Lindsay & Blackiston. 1878. 8vo.; cloth, pp. 168.

The Physician's Hand-Book for 1878. By William Elmer, M.D., and Albert D. Elmer, M.D. New York: W. A. Townsend. 1878.

Diseases of the Nasal Cavity and Pharynx. Translation from the German of Dr. Carl Michel, of Cologne on the Rhine. With an introduction by E. L. Shurlyan. C. C. Yeaman. First American edition. Detroit. 1877: 8vo.; paper, pp. 109.

Fourth Biennial Report of the State Board of Health of California, for the years 1876 and 1877. Sacramento State Office: 8vo.; cloth, pp. 92.

Lecture 1: Clinical Lectures on Surgery. By J. H. Pooley, M.D. (Reprint from the *Ohio Medical and Surgical Journal.*)

Pyæmia and Septicæmia. By B. A. Watson, M.D. Reprint, *New York Medical Journal*, October and November, 1877.

Report of Cæsarean Section after Seven Days' Labor, with some Comments upon the Operation. By Edward W. Jenks, M.D. Reprint from *The American Journal of Obstetrics and Diseases of Women and Children.* Vol. X., No. IV.; October, 1877.

Mechanism of Joints. By Harrison Allen, M.D. Extracted from the Trans. of the International Medical Congress. Philadelphia: September, 1876.

The Localization of Diseased Action in the Œsophagus. By Harrison Allen, M.D. Reprint from the *Phila. Med. Times.*

Note on the Anatomy of the Perineum. By Harrison Allen, M.D. Extracted from the Trans. College of Physicians of Philadelphia. Third series, vol. II.

Third Annual Report of the Executive Committee of the Asylum at Walnut Hill, Hartford, Conn., at their Annual Meeting, Oct. 8, 1877. Also petition to the Legislature.

Condensed Statement of Mortality in the City of Chicago, for the weeks ending, Oct. 13, Nov. 3, Nov. 10, Nov. 17. O. C. De Wolf, Commissioner of Health; H. P. Wright, Registrar of Vital Statistics.

Summary.

I. Practical Medicine.

Intra-uterine Vaccination.—Bollinger (*Allg. Wiener Med. Zeitung*). In a paper on variola and vaccina (in Volkmann's series of clinical lectures), Prof. B. mentions a fact hitherto little known, but well confirmed by Reiter's excellent experiments, viz., that a vaccine virus, even in the dilution of one part to 1600, retains its specific efficiency, provided it is offered a large surface to act upon (such as that created by a vesicant). He also affirms that the blood is the agent through which all parts of the body are infected with the virus. From these facts the lecturer infers that the fœtus, which has been impregnated in utero with the virus, will possess immunity against vaccine, or variolous virus, for some time after birth. He therefore urges the re-vaccination of women in the eighth month of pregnancy. In cases where this re-vaccination is successful, the infants would be protected from their birth against one of the most dangerous of diseases. And where the re-vaccination was not successful, B. considers it worth trying to render the fœtus in utero secure, by subcutaneous or intra-venous vaccination of the mother.

Hereditary Migraine of Thirty Years' Standing Cured by Static Electricity.—Dr. Hache. (*L'Union Médicale*, Oct. 4, 1877.) M. X——, born of a gouty father and dyspeptic mother, suffered during childhood from great gastro-intestinal irritability. Thanks, however, to good management, he acquired robust health and a good constitution. But from early childhood he had been affected with headaches, which have been the torment of his life.

The attacks, extremely painful, have nearly always been

connected with digestive troubles, accompanied with vomiting of food or bilious matter, and lasted from twelve hours to two days. They returned almost every week, under very diverse influences, change of diet, or of the hour of eating, cold, moral emotions, etc., etc. Nevertheless, repose of mind, residence in the country or by the seaside, travels, etc., diminished the attacks, and prevented their occurrence for some weeks.

Such was the situation of M. X—— until the age of 45 years. Engaged in important financial business, which demanded assiduous labor, and entailed great responsibility, he has been obliged to bring to bear great moral energy to overcome his neuralgic attacks, when he could not give up business. Happily, vigorous exercise, fencing, the chase, and horsemanship, which have occupied his leisure hours, have developed his muscular vigor, and neutralized the neuralgic predominance.

In 1867, to the habitual sufferings, were added a vague rheumatism, frequent furuncular eruptions, and an obstinate granular pharyngitis. The waters of Aix-les-bains were advised, with benefit to the secondary troubles, but the migraine remained unaffected. It was even complicated during two years with an acid gastralgia, rebellious to all calmatives, requiring the constant use of gaseous alkaline waters and charcoal, with an exclusively animal diet.

In October, 1875, Dr. Arthuis was consulted. After diminishing the gastric symptoms with wine of pepsine, he recommended, for the general treatment, the use of static electricity, which has been his special object of study for eight years.

M. X—— received twenty-five daily applications of fifteen minutes each; then for three weeks, every two days; and finally, every third day; the total number of electrizations being forty.

After the fifteenth sitting, he had a most violent attack of migraine; but this was the last. At the same time with the hemicrania, the gastric symptoms ceased gradually, and all food was well borne. Sometimes still, at long intervals, a painful point is felt, limited to a small surface of the head; but the suffering, of slight duration, is speedily moderated by topical calmatives, and is not accompanied by any trouble of the digestive functions.

Gout, hereditary in the family, appeared in M. X—— in 1871, and second time last spring, with medium intensity and without extending beyond the articulations of the foot.

It is nearly two years since treatment, and the benefit remains, although M. X—— has had an excess of business, and moral emotions have not been spared him.

The cure of the double affection may then be credited to the use of static electricity, of which Dr. Arthuis has already made so many happy applications to therapeutics. L. W. C.

EARLY SIGNS OF PHTHISIS.—Dr. Haenisch (*Deutsch Arch. f. Klin. Med. and Annales de la Soc. de Méd. de Ganel*) has studied the movements of expansion of the chest in consumptives, by means of the stethograph, and concludes from his researches that in the normal state the expansion of the chest is equal for both sides. If both apices are diseased (catarrh of the small bronchial tubes, induration, cavities), the expansion is less. It is less on the diseased side than on the sound side; which fact may serve for diagnosis.

At the same time, according to him, there should be mentioned an important characteristic for the diagnosis of commencing tuberculosis drawn from the position of the clavicles; this has been shown by Aufrecht. In the normal state the acromial extremity of the clavicles is more elevated than the sternal end. If the acromial end is depressed, it signifies that the respiratory field on this side is narrowed.

If the acromial end is found on the same plane as the sternal end, if, moreover, there exist certain other suspicious symptoms such as anæmia, pains in the different portions of the chest, etc., an affection of the corresponding apex should be thought of. As a general rule the acromial end of the clavicle is lower on the diseased side than on the sound side, and lower also in the cousumptive than in healthy persons. L. W. C.

THE USE OF DIGITALIS IN DISEASE OF THE AORTIC VALVES.—Fothergill. (*British Med. Journal*, Oct., 1877.) The consciousness that many diseases of the heart can be treated with benefit, has now become general. Formerly the hopelessness

of affecting injured or disordered valves prevented early investigators of these diseases from making an effort at systematic treatment. Consequently, they confined themselves to palliative measures and the relief of symptoms, but the efforts which were first merely empirical guesses, have now become at once the most intelligent and complete of all our therapeutic measures. Digitalis, the most pronounced of all medicines in its action upon the heart, is now used with a clear conception of the results and mode of its action. Withering says of its use in the treatment of dropsy, "it seldom succeeds in men of great natural strength, of tense fibre, of warm skin, of florid complexion, or in those with a tight and chordy pulse; while, on the contrary, if the pulse be feeble or intermitting, the countenance pale, the lips livid, the skin cold, the swollen belly soft and fluctuating, or the anasarcous limbs readily pitting under the pressure of a finger, we may expect the diuretic effects to follow in a kindly manner." An experience of ninety years corroborates the opinion of this acute observer. Sir Henry Holland wrote (1839): "The enlarged and flaccid heart, though, on first view, it might seem the least favorable for the use of this medicine, is not so; at least we have reason to believe that in dropsical affections, so often connected with this organic change, the action of digitalis as a diuretic is peculiarly of avail." In spite of the prevalent opinion that hypertrophy was an undesirable growth of the heart, and that palpitation was due to a too powerful ventricular contraction, and therefore the heart's action should be lowered, accurate views have established themselves. This was chiefly due to the fact that digitalis, though a powerful diuretic in dropsy due to failure in the circulation, was not a diuretic when administered to healthy persons. For the relief comes through its effect upon the circulation, it stimulates the heart to more vigorous action, fills the arterial system with blood, causes a better blood pressure on the glomeruli of the kidneys, and consequently a better flow of urine. Our views, too, are modified as to palpitation and hypertrophy, for we now know that palpitation, when it is not a neurosal affection, is a laborious stroke indicating that the ventricle is overtaxed, instead of possessed of superfluous energy; nor is hypertrophy a disease *per se*, but a secondary growth to some obstruc-

tion of the blood flow, and a beneficent and compensatory change to be conserved.

Before the use of digitalis in disease of the aortic orifice is understood, we must glance at the pathology of aortic valvulitis. The function of these valves is closing the aortic orifice and preventing the regurgitation of blood into the ventricular channel on the aortic recoil. The ventricle, at each systole, throws so much blood * into the aorta, which, being elastic, is distended; the recoil of the aorta closes the aortic valves, preventing the reflux of blood which is then driven forward into the smaller arteries. When obstruction to the aortic blood flow is increased, two morbid processes ensue. First, the blood pressure is raised and the obstruction to the forward flow of blood on the ventricular systole is increased, and hypertrophy of the muscular walls follows. Thus the ventricle is enabled to cope with the increased blood flow, and can empty itself at each systole. Such is the simple hypertrophy of Bright's disease in its earlier stages; and from this cause comes most of the aortic valvulitis of advanced life; the aortic valvulitis induced by muscular effort is chiefly found in young men. We have, then, an obstruction to the blood flow, an increased blood pressure and a powerful ventricle; the result is the aorta is unduly distended at each ventricular systole. As the aortic recoil is in strict proportion to the amount of distention, the valves at the base are violently closed, which gives the accentuated aortic sound so significant of this condition. This powerful closure leads to valvulitis and a growth of connective tissue corpuscles in the valvular vela, but whether contraction of valves will follow cannot be seen. Distortion, however, is produced, and the valves either present an obstacle to the forward flow of blood, or they fail to arrest regurgitation, or these conditions may be combined. Hayden gives them as the most common of all combined valvular lesions.

When the valves become thick and stiff, and the process of chronic inflammation involves the base of each segment or cusp, and the growth of connective tissue leads to the contraction of the conus, stenosis is produced, and the ventricular wall has in its

* From 100 to 190 *grammes* (Herman's *Physiology*, translated by A. Gamgre. Page 62.)

contraction to overcome the resistance of stenosis of rigid valves, and of the normal blood pressure. In aortic stenosis when nature's efforts are sufficient for perfect compensation, a new equilibrium is achieved by hypertrophy of the ventricle not by retarding the ventricular contraction. So digitalis benefits, not by prolonging the systole, but by increasing the driving power until a normal blood-flow is secured. It may justly be urged that it produces contraction of the peripheral arterioles, raises the blood-pressure and creates an additional obstruction to the blood-flow ; but practically this is of no moment for it is not the blood pressure in the arteries which taxes the powers of the left ventricle but the tight stenosis against which it struggles.

In aortic regurgitation the semi-lunar valves shrivel along the free edges till they are insufficient to completely arrest the backward flow of blood. In this case hypertrophy is a means of arresting dilation rather than of increasing ventricular power; and we are too apt to assume the latter condition essential to evoke it. For hypertrophy does not always follow an obstruction to the flow forward of the blood on the ventricular systole. In anæmic systems and in chronic Bright's disease, dilatation is found instead, especially in women. It is found where there is no obstruction to the blood-flow, notably in hypertrophy of the left ventricle, so common in mitral regurgitation and in cardiac dilatation, the result of partial myocarditis accompanying pericarditis by which dilatation is limited.

When the aortic valves are rendered incomplete, the left ventricle is filled, not only by blood coming in from the auricle and pulmonary veins, but by that driven backward by the aortic rebound. The ventricle yields before this new force, and dilatation would now become marked did not hypertrophy arrest and limit it. In this connection occurs the most massive form of hypertrophy, the *cor bovina;* and we do not need the effects of digitalis, for the enlarged ventricle is already working ruin on the arterial walls both by its powerful contractions and over-distension by blood. This over-distension, which may be seen in the arteria centralis retinæ with the ophthalmoscope, produces chronic parenchymatous inflamm ation of the walls of the arteries and atheroma. (See article Philadelphia *Medical Times*, Aug.

7th, 1875, on Atheroma.) To administer an agent like digitalis, which, Balthazar Foster tells us, prolongs the diastole, would be injurious. What is wanted would be the antagonist of digitalis, which would lessen the diastole and limit the force of the ventricular sytole.

While this drug is harmful in the early, it is not so in the advanced stages of aortic regurgitation, for the arteries lose their elasticity so that the arterial recoil is diminished. This would be beneficial, were it not the force which feeds the nutrient vessels of the heart itself, consequently the hypertrophy of aortic regurgitation, though the most massive, is the least durable of all its forms. Mauriac gives the reason for this, and Balthazar Foster brilliantly illustrates it by showing that when an aortic valve is ruptured by violence, the duration of the hypertrophy depends on which valve is injured. If the torn valve have a coronary orifice behind it, the hypertrophy is brief, and the downward progress of the case is swift; but if the valves, behind which the coronary arteries spring, are the injured ones, the complete valves arrest, to some extent, the backward flow, and so the integrity of the muscular wall is maintained, and the hypertrophy is more lasting. (*Clin. Med. and Times and Gazette*, December, 1873.)

When molecular decay begins to cut down hypertrophy, it is assisted by impaired tissue nutrition, faltering of the ventricle, insufficient filling of arteries, and diminished coronary flow. The muscular stricture is being undermined, and the ventricle yields at once to the dilating force of the incoming current, and rarely hesitates. Here digitalis gives relief by exciting more powerful contractions and securing better circulation, doing away with the long diastolic halt with its tendency to ventricular paresis. At this advanced stage, it may delay the inevitable end, but more cannot be expected. Its use in double aortic disease, must be determined by the nature and indications of each case, especially by the condition of the ventricular walls. When the ventrical falters, digitalis may be safely resorted to, till then it is better withheld.

We may sum up as follows:

1. Digitalis is useful in aortic stenosis. By exciting a more

powerful ventricular contraction, it enables an equal bulk of blood to be driven through a narrowed orifice in an equal time, thus establishing a new equilibrium.

2. In the earlier stages of aortic regurgitation, with massive hypertrophy, it is harmful rather than useful,

3. In the later stages of aortic regurgitation, where the heart is failing from mural decay, and especially when intermitting, digitalis may be given with at least temporary advantage.

M. E. K.

THE TREMBLING IN PARKINSON'S DISEASE (paralysis agitans). —(*Progrès Medical*, Dec. 2, 1876; *Am. Jour. Med. Sci.*, July, 1877.) M. Charcot, in a recent lecture on paralysis agitans, particularly insists on the following points:

1. The name paralysis agitans is incorrect; paralysis cannot be applied where muscular power is preserved. Nor is the affix agitans correct, because the trembling is absent in some well defined cases. He proposes instead, the name *Parkinson's Disease*, after the English physician.

2. He maintains that, as a rule, the head and neck do not take part in the tremor which affects the limbs and trunk, that the oscillations are communicated from the trunk. To prove this, he fastened a small stick to which a feather is attached, to the forehead of the patient. When left alone, the feather was unceasingly agitated. When the movements of the upper limbs were arrested, the feather was still.

3. He insists that tremor is not a necessary symptom of Parkinson's disease, for it may be so slight as to be imperceptible to the patient; it may not appear for several years, or it may be entirely absent.

In some cases the stiff attitude, the extreme slowness of movements, the expression of hebetude, caused by immobility of features, the involuntary flow of saliva, and the interference with speech, have caused this affection to be mistaken for softening of the brain. Usually when this error has been made, the rigidity was especially marked on one side. The intellectual faculties, however, remain intact in Parkinson's disease.

M. E. K.

TREATMENT OF CATARRH OF THE BLADDER.—Prof. Edlefsen. (*Memorabilien XXI., No.* 6.) Injections of pure medicated water into the bladder are objected to by the professor. He only proceeds to such measures when internal remedies have failed. He agrees with Dittel in saying "that only in cases of the greatest necessity, should an instrument be passed into the bladder."

The professor recommends as a new remedy for catarrhal cystitis, chlorate of potash. The medicine, in sufficient quantity, can be introduced per os. In this way, while its curative effects on the bladder are obtained, the system is not overloaded with the drug. The professor further thinks that where it is required, chlorate of potash, in solution, could be injected into the bladder.

The unfavorable results of treatment in catarrh of the bladder, the author thinks, are owing to the treatment being based on incorrect suppositions, and to a timidity on the part of physicians in using certain active remedies. They either were renounced entirely or used at improper times. The most active remedies in this disease are bals. copaibæ and ol. terebenthinæ.

Very few cases of catarrh of the bladder, when treated from the beginning with either of these remedies, would long persist, and those cases which resist this treatment will most probably be due to some organic trouble of the bladder. The professor thinks that no remedy will so quickly cause an alkaline urine in a case of catarrh of the bladder to become acid, as turpentine and copaiba. These remedies diminish the catarrhal secretion of the bladder.

From considerable experience, the professor can conscientiously recommend the potassic chlorate. It does not interfere with the function of the stomach, is harmless, and where turpentine is contra-indicated, replaces it completely.

The mucous membrane of the bladder resembling the mucous membrane of the mouth and pharynx, the professor reasoned that he might expect the same results from the chlorate on the membrane of the bladder, as upon the membrane of mouth and pharynx, and experience proved that he was right. The effect of the remedy is not only to lessen the hyperæmia and the catarrh of the membrane, but it also hastens the healing of ulcers. Prof.

E. thinks it has a favorable influence on the growth of the epithelial coating.

His favorite prescription is: potass. chlorat., 15·0; aq. dest. 300·0. A tablespoonful every two or three hours.

The professor lays much stress upon the mode of administration. It is desirable to have a continuous action of the remedy. When the remedy can not be well borne, aq. laurocerasi is added.

II. Obstetrics.

Cephalotripsy.—M. Gillette. (*L'Union Médicale*, Oct. 2, 1877. M. Gillette communicated to the *Société de Médecine de Paris*, session of July 14, 1877, a case of cephalotripsy which he had just performed upon an Italian hunchback, in whom the antero-posterior diameter of the pelvis was narrowed at least three centimeters. The pregnancy was at full term, and the child was well formed. M. Gillette hesitated for some time, asking himself, before proceeding to crush the child's head, if it was not better, in place of sacrificing the child, to perform the Cæsarean operation in this deformed dwarf, incapable of child-bearing, and of doubtful utility to society. He conformed, however, to the general rule, and performed cephalotripsy—with regret, however.

M. Dubuc asked what was the fate of the woman after the operation. He asked this with the more interest, because in two cases which he remembered, cephalotripsy performed upon two rachitic women at *La Maternité*, was followed by the death of both, and the autopsy showed that the uterus was considerably torn.

M. Gillette observed that he had only been called accidentally to the patient, who was not in his service, and had lost sight of her the day after the operation. He could say, however, that the belly was not painful on that day, though the uterus was still large, and the pulse 160.

M. Leblond would not have hesitated between Cæsarean section and cephalotripsy in the case before them. The first of these operations is much less dangerous than is generally supposed; and the second, on the contrary, eight times out of ten, caused

the death of the mother. Moreover, if the Cæsarean operation has not, until now, been more successful, it is due to certain things neglected in the usual method of operating. For example, after extraction of the child, one should proceed as in ovariotomy, cleansing the parts carefully, and the edges of the uterine wound should be brought together by means of elastic sutures. Finally, what seems to prove the advantage of these precautions better than any theory, is the cases in which some operators have, without intending it, when beginning an ovariotomy, been led by circumstances, to perform on the same woman the Cæsarean operation. It would be easy to find examples of this kind in gynecological records, and the successes obtained are already very encouraging.

M. de Beaurais remarked that whatever the perfection of arrangements in the Cæsarean operation, it required still more, a certain skill in operations of this kind; it is necessary also to have skillful assistants. Now, as it is not always possible to realize at will these diverse conditions, it may be conceived how many physicians recoil before the idea of active intervention, which brings with it always a high degree of responsibility.

M. Durasiez added, that if the Cæsarean operation was not oftener performed, it was because the necessity was avoided in a large number of women, by provoking in time, premature delivery.

M. Camuset believes that there is good reason to resort, by preference, to this latter means of intervention; for, in a case he had seen of a little dwarf, who had reached full term, and was already in labor, the Cæsarean operation was promptly followed by death.

M. E. R. Perrin thinks that although ovariotomy and Cæsarean section are two quite dissimilar operations; the success which the former has achieved, should remove the antipathy which Paris obstetricians have for the Cæsarean operation, only the operation should not be done as it usually is, after the patient is exhausted by a prolonged and fruitless labor, and after several applications of the forceps and repeated tractions, which have been, at least, useless. If, on the contrary, the Cæsarean operation be performed at the beginning of labor, always with the authority of a

sufficient experience, the chances of success would be greater, for the patient would be free from the traumatisms she would have received from a more tardy intervention.

As to the chances of hemorrhage which the Cæsarean operation made in a manner prematurely, might cause the patient, one could not deny them; but what were they compared to the usual success of late operations?

Finally, are not the cases published from time to time, of non-fatal accidental deliveries, the result of violent injuries of the anterior abdominal region, of a nature to decide the most hesitating?

M. Gillette was very glad to see the general preference of his colleagues for the Cæsarean operation over cephalotripsy. If another case of the kind he had brought before them, should present itself, he would not hesitate in performing immediately, the Cæsarean operation without previously applying the forceps.

L. W. C.

ANO-PELVIAN VERSION.—M. Guéniot. (*L'Union Médicale*, Oct, 4, 1877.) At the session of the *Académie de Médecine*, of Oct. 2, 1877, M. Guéniot read a paper on a "method of version applicable in difficult cases," which the author calls the *ano-pelvian* method.

According to M. Guéniot, circumstances are not lacking where the accoucheur, although well aware of the difficulties and dangers of version, yet feels obliged to resort to this operation.

The most common case, without doubt, is that of a presentation of the trunk with a complication of uterine spasm, where derotomy and evisceration of the fœtus have been judged impracticable, or recognized as inefficacious. In such cases the use of the ano-pelvian process is perfectly indicated.

This process consists essentially:

First. In aiding, by the weight of the body, the insertion of of the hand to the fundus of the womb.

Second. In taking as a *point d'appui* for the traction to be made upon the fœtus, the pubic arch or the sacro-coccygian process, by the aid of a finger hooked in the rectum.

Third. In following, finally, the usual rule for podalic version.

According to this method of operating, after having introduced his hand into the vagina, the accoucheur advances his body into contact with the elbow with which he operates; then he presses with the body, with greater or less force, upon the olecranon process and posterior surface of the arm. The forearm thus pushed forward at the will of the operator, carries, in a mechanical manner, the hand into the uterus, almost without fatigue, in search of the breech. As soon as this is found—which is ordinarily much easier to do than to reach a foot or a knee—the finger is introduced into the rectum and used as a hook to make continuous traction, either on the pubis or on the sacrum, bringing the pelvis of the child into the cavity of the mother's pelvis.

The author sums up the advantages of the ano-pelvian method thus:

First. The pelvis of the child is generally easier to find than the feet.

Second. The hold which the pelvis or scrotum affords is of the firmest, and does not allow slipping.

Third. Traction being direct, the force used is all utilized.

Fourth. Whatever the direction of the traction, toward the dorsal or toward the abdominal region of the fœtus, its evolution may be effected.

Fifth. Finally, when the operator has failed by the podalic method, the ano-pelvian method still allows of bringing the version to a favorable termination.

M. Guéniot, who has used this method for ten years, is the first to publish it, though others have had recourse accidentally to direct traction on the breech, without attaching to it the merit to which it is entitled. L. W. C.

NORMAL LABOR DURING EXTRA-UTERINE PREGNANCY. (*Jour. de Méd.*, November, 1877.) M. Labatut reports in the *Revue de Littérature Médicale*, the following case:

A woman had had a previous normal labor, and two years later had all the signs of pregnancy. At the end of five months, after progressive development of the abdomen, she had violent pains, but without result. After their cessation, she was sick for six months. Menstruation then reappeared, and the patient

enjoyed tolerable health; the tumor had subsided, and the abdominal pains had disappeared.

Five years later, a new suppression of the menses, attended with digestive troubles, took place. The patient, who was then 41 years of age, attributed these symptoms to "change of life." After several months, she was examined by Mme. Rampin, a midwife of Toulon, who diagnosticated pregnancy at the ninth month. She determined, at the same time, also the presence of a voluminous tumor in the right side, which, after hearing the history of the patient, she attributed to an extra-uterine pregnancy. Fifteen days after the examination, the woman was delivered naturally, after a labor of three hours, of a living child. After the labor, the midwife examined carefully the remaining abdominal tumor, due to the extra-uterine pregnancy.

The woman lived two years, and died in March, 1877, at the hospital at Toulon, of pulmonary tuberculosis.

At the autopsy, there was found in the right Fallopian tube, a fœtus at term, macerated, and enveloped in a thick pouch.

The case was, then, one of tubal pregnancy, dating back seven years; in spite of its presence, there had been normal conception and delivery. L. W. C.

THE PROPHYLACTIC TREATMENT OF PLACENTA PRÆVIA. T. Gaillard Thomas (*Am. Practitioner*, May, 1877), earnestly advocates the induction of premature labor, after the period of viability of the child, as the only known method by which the evils attending upon the last three months of utero-gestation, in this complication, can be avoided.

Fortunately, this condition is usually revealed by reliable premonitions, so that the uterus may be emptied of its contents before the vital forces of mother and child are exhausted by hemorrhage. By this means, the physician would be in attendance at the moment of cervical dilation, and consequently the moment of danger, he would be able, by hydrostatic pressure, to control hemorrhage, while at the same time the dilation of the cervix may be rapidly accomplished.

The only objection that can be urged is, that a child of less than nine months' intra-uterine life, does not have as good a

prospect of life as one arrived at full term; and this is invalidated by the fact that an eight months' child, depending upon the pulmonary respiration, has a brighter prospect for life than one in the uterus depending for aëration of its blood upon a crippled and bleeding placenta; while for the mother the safety is incomparably greater.

To those physicians who have been satisfied with the tampon until version has become practicable, and who, relying upon these excellent and efficient means, set their faces against the innovation here advocated, he urges a thoughtful consideration of statistics; accepting those of Simpson, Read and Trask in placenta prævia, the prognosis for the mother is about as grave as that of patients submitted to the capital operation of ovariotomy. For the child it is much graver. In view of these facts, he insists that the claims of any means which offers immunity, to any decided degree, from the ordeal of so dangerous a parturition and labor, should be most carefully weighed before being thrown aside. M. E. K.

III. Surgery.

Treatment of the Transverse Fractures of the Patella and the Olecranon.—Max Shede. (*Reports of the City Hospital at Berlin.*) It is a well-known fact that the fragments of a transversely broken patella are so seldom united by osseous substance that sometimes the possibility of this kind of union has been positively denied. Malgaigne relates that Pibrac set up a prize of 100 Louis d'or for the man who could show him a fractured patella united by a thoroughly ossified callus. Since that time the possibility of this kind of healing has been established unquestionably.

But this result is now-a-days attained almost as seldom as at the time of Malgaigne and Pibrac.

In consideration of the following facts: *first*, that in longitudinal and comminuted fractures of the patella, osseous union always takes place without difficulty; *second*, that the periosteum of the patella possesses such a power of producing osseous sub-

stance that almost the whole of the bone can be reproduced if it were lost by necrosis after a compound fracture; *third*, that stalactite shaped masses of luxuriating callus are found at the edges of separated fragments of the patella; in view of these facts there can be no doubt but that it cannot be any internal physiological cause, but only some external unfavorable conditions, which prevent the osseous union of a transverse fracture of the patella.

Longitudinal and comminuted fractures heal with osseous tissue, because the fragments remain in close apposition. The transverse fractures are united only by fibrous or ligamentous substances, because the fragments remain more or less separated.

Not one of all the numerous, often very ingenious, apparatus and bandages, proposed for the treatment of the above mentioned fracture, has kept up its reputation. Generally the surgeon is satisfied with obtaining a ligamentous union by a layer two or three "lines" broad. Nevertheless, the author does not believe that this unsatisfactory result is caused wholly by faults of our bandages not being able to achieve a complete and permanent coaptation of the fragments. Many of these bandages would certainly give better results if they could be applied immediately after the injury had taken place. But this is generally impossible, owing to great accumulation of blood within the synovial sac, and to considerable swelling of the surrounding soft parts. It is necessary to wait for the absorption of the exudation, and the appropriate treatment of the fracture cannot commence until the most precious time for the consolidation of fractures has expired.

In this way several circumstances come together to prevent the osseous union, to-wit: the considerable extravasation of blood, which is commonly accepted as protracting the consolidation of fractures, and the retarded coaptation of the fragments. The logical consequence of the above train of ideas must lead to an early operative evacuation of the fluid from the capsular cavity, as the condition of obtaining more favorable results. As it now is a well established fact that "puncture of a joint, if performed antiseptically, is absolutely free from danger," the author thought himself entitled to make the experiment.

The author has employed this treatment in five cases of transverse fractures of the patella. The puncture of the joint always proved entirely harmless. Nevertheless, the two first cases healed by a ligamentous union, although the interposed fibrous matter was very thin, and scarcely measurable. This unsatisfactory result was caused by failures in the after-treatment, which the author afterward learned to avoid. But the three last cases healed by a perfectly solid, osseous union. The treatment was as follows: He punctured the capsular cavity, and, if needed, the bursa patellæ, too, using a strong trocar, and all antiseptic precautions.

There is no difficulty in letting out the blood, which usually is fluid and mixed with synovia. The puncture is followed by injections of a three per cent. solution of carbolic acid; they are repeated until the fluid returns perfectly clear. He then takes out the trocar and closes the wound, placing a small piece of silk protective, and a little pad af salicylated cotton upon it.

The exact coaptation of the fragments is obtained by means of long, two or three centimeters broad, strips of adhesive plaster, which, at the same time, keep the salicylated cotton in its place. The upper strips, which are to draw the upper fragments downward, must cross each other on the calf and finally reach the anterior aspect of the leg. The strips for the lower fragment must encircle the thigh in a similar way. Then the whole extremity is tightly bandaged with flannel-rollers, the turns of which must be applied like a figure 8 bandage around the knee-joint, so as to strengthen the effect of the plaster-strips. At last, a plaster-of-Paris bandage is applied from the ankles to the hip of the completely extended extremity. Furthermore, the author thinks it necessary that this bandage should be renewed, during the first two or three weeks several times, at short intervals. Especially the first change of the bandage must take place before eight days have elapsed, the decrease of the œdematous swelling having made the bandage so loose, as to necessitate its renewal. The author, after eight days, always found a considerable space between the bandage and the limb, the plaster-straps quite loose, and the fragments a little distant from each other. A new bandage, easily corrected the deficiency. But the second and

third bandages will show the same condition after eight days, owing to a steady decrease of the swelling of the soft parts around the joint, and the atrophy of the leg from inactivity.

It is unnecessary to mention that the slightest flexion of the limb must be avoided while the bandage is changed. If it is shown by the second or third change of the bandage, that no further decrease of the joint in size has taken place, and that the fragments remain in close opposition, the new bandage can remain during the rest of time required for healing.

As a general rule, the duration of the treatment by plaster-of-Paris bandages, has been six weeks. The after treatment must have two objects in view: *first*, to protect the young osseous scar against violent injuries; *second*, to restore by degrees the flexibility of the joint. A false step causing the knee to be bent suddenly, would, at this period, most likely sever the fresh union.

None of the numerous varieties of elastic knee-caps or similar bandages, are suitable to this purpose. Only a solidly constructed apparatus, consisting of articulated splints, extending from the foot to the hip, will keep the patella safe, and assure the definite healing. This apparatus must be provided with a hinge opposite the knee, to permit a gradual flexion, which, commencing with 20°, is increased a little every four weeks. It is not advisable to let the patient walk without the apparatus, until four or six months have elapsed. In the meantime the flexibility of the joint must be acted upon by means of passive motions, massage, baths, douches. C. F.

THREE CASES OF ORAL ABSCESS.—T. Pauly.—(*Berliner Klinische Wochenschrift*, 1877, *N.* 22.)

I. *Idiopathic Retropharyngeal-abcess in a Baby.*—The author was called to see a baby in the state of extreme suffocation. Exploring with the finger he found on the right side of the pharynx behind the epiglottis, a fluctuating tumor of the size of a pigeon's egg. Fearful of a sudden aspiration of the pus into the lungs if he made a free incision, he preferred to make a mere puncture. The baby instantly felt relieved and respired with ease. When, in the afternoon, the contents of the abcess had increased again, he opened it thoroughly with a ten-

otome and evacuated the pus through the mouth over the tongue, having bent the head of the baby forward.

II. *Abcessus glosso-epiglotticus.* — A baby three months old had difficulty in sucking. Examining with the finger the doctor found an abcess between the tongue and the epiglottis. Having at first employed a trocar, the cavity was filled again, whereupon he lanced thoroughly with perfect success.

III. *Abcess in the Tongue.*—A farmer, 17 years of age, suffered from difficulty in swallowing caused by an abcess in the tongue about an inch above the ligamentum glosso-epiglotticum. The diagnosis could be made by means of the laryngoscope. He recovered after incision. C. F.

EXCISION OF THE KNEE JOINT, WITH TRANSVERSE DIVISION OF THE PATELLA.—R. Volkmann. (*Deutsche Medicinische Wochenshrift*, 1877. N. 33.) During the last three years, the author has performed twenty-one excisions of the knee joint, and lost only one patient, a child, which died of tubercular meningitis, three weeks after the operation. He justly points to the importance of combining the total extirpation of the fungous or tubercular capsule with the excision of the diseased parts of the bones. The extirpation of the whole capsule necessitates for all joints a somewhat larger division of the soft parts. For the shoulder, elbow and hip joints, the longitudinal incision will do, but for the knee joint the author thought it necessary to devise another incision, which, while it permits the accurate removal of the capsule and the surrounding fungous tissue, would, at the same time, preserve the integrity of the quadriceps femoris. For this purpose he cut across the middle of the patella, divided the latter by the saw into equal halves, and, after having completed the excision in the usual way, he united the two halves of the patella by means of cat-gut sutures. This method has, in several cases, proved very useful. For very extensive excisions and in case of unusually great infiltration of the soft parts he recommends an H-cut. If the pieces are scrupulously coaptated by cat-gut sutures, the patella will become quite firm in fourteen days. The surfaces of the epiphyses must be united by two cat-gut sutures. If the patella is adherent to the condyles of the femur, it must be detached with the chisel.

The author relates four cases operated on by the above method. In all, the disease had reached such an extent as not to allow a favorable prospect for a good result.

In three of these excisions, the patella could be left entire, or only its cartilaginous surface had to be scraped off. In the fourth case there were three carious cavities filled with dead bone and yellow cheesy matter in the patella, of which only the external plate could be left. Nevertheless, the two thin plates healed firmly together without dislocation. The joints operated upon quickly consolidated and proved useful, in spite of the fact that considerable portions of carious bone had been removed in two cases. C. F.

PARENCHYMATOUS INJECTIONS OF ACETIC ACID IN CARCINOMA.—Th. Gies (*Deutsche Zeitschrift für Chirurgie*, bd. 8, p. 279). A man, 62 years old, had a glandular tumor under the horizontal branch of the lower jaw. The tumor was supposed to be a carcinoma following the extirpation of a small growth in the lower lip. The tumor was extirpated, and the microscope confirmed the diagnosis.

Some time afterwards, the patient felt pain in the tongue, owing to a carcinomatous ulcer in the left half of the tongue, not far from the epiglottis. The degenerated portion was excised after ligature of the arteria lingualis and division of the lower jaw.

Seven months later, two new tumors developed, a smaller one near the left border of the lower jaw, and a larger one below on the neck. The latter disappeared under treatment with ice, but the former remained stationary. A year after the tongue had been extirpated, a rapidly growing tumor developed in the neighborhood of the right submaxillary gland. The growth did not decrease in size when treated with ice, and it soon commenced to dislocate the trachea. A small piece of the tumor, taken out by the harpoon, proved to be carcinomatous by a microscopic examination.

The author then injected into the tumor, once every week, the whole contents of a Pravaz syringe filled with a solution of 1 part acid. acetic. glaciale to 3 parts of water.

Through the same puncture in the skin, he plunged the needle into different parts of the growth, emptying the syringe gradually,

so as to spread the contents through the whole tumor. Warm poultices were applied afterward. Great swelling soon followed. On the 10th day, he made a deep incision with a pointed knife, and inserted a drainage tube, through which an offensive, ichorous matter was discharged. After 17 days the discharge ceased, and at the end of four months, there remained only a small, hard tumor, lodged deeply in the tissues. Soon afterward the same treatment was applied to the tumor near the margin of the lower jaw, and to a new one in the left cheek, with a similar good result. A new tumor now presented itself below the left ear; it increased to the size of a hen's egg, was very hard, and showed, on micoscopic examination, a more abundant framework of connective tissue than did the former tumors. Injections again were resorted to, but, considering the greater firmness of this growth, the author injected the whole contents of a syringe two or three times daily. During eleven days, twenty-five syringes filled with the solution of acetic acid were injected. The injections into this tumor produced great pain, the former injections in the soft growths having been almost painless. On the twelfth day the incision was made. The suppuration lasted three weeks, and the tumor disappeared almost entirely.

A similar favorable result was obtained by the author in another case. A woman, exceedingly afraid of an operation, had a soft carcinomatous tumor in the breast. During 10 days a syringe-full was injected daily, and on the 11th day the incision was made. After a few weeks the suppuration had ceased, and four weeks later only a small painless tumor remained, as big as a nut, in the depth of the breast.

In both these cases, the author made the injections for the purpose of destroying the new formation through suppuration. For that reason he used solutions of acetic acid, strong enough to produce cauterization of the tissues.

He recommends paying more attention to this method than generally has been done, because it may be a very useful one in cases not amenable to operations; if it does not cure it it may, at any rate, restrain the rapid growth of the neoplasm. The author's cases are yet of too recent a date to form a definite opinion of the ultimate fate of the patients.

TREATMENT OF GOITRE BY INTERSTITIAL INJECTIONS. (*Journ. de Médecine, Nov.*, 1877.) In a review published in the *Annales des Maladies du Larynx et des Oreilles*, M. Cazalis studies the different modes of treating goitre, especially the method of Luton. This method is particularly applicable to parenchymatous and fibrous goitres. By this process, in carrying the iodine to the center of the tumor, Luton has often cured goitres otherwise incurable. He employs the ordinary hypodermic syringe, but it is best to have it gold or nickel-plated. The piston should fit accurately, so as to overcome the resistance of the tumor. Luton recommends the ordinary tincture of iodine, from 1 to 5 grammes, or the following: distilled water 40 grammes, tr. iodine 20 grammes, iodide of potassium 1 gramme; dose 15 to 40 drops. The solution should only penetrate the substance of the gland, and it is well to anæsthetize the part with ice or the ether spray. The veins should be avoided, and the introduction of air as well.

The symptoms vary according to the strength and amount of the liquid injected. Small doses produce only an uneasiness or slight smarting in the region of the neck. With stronger injections, more or less painful radiations are felt towards the jaw and ears. Sometimes acute iodism results, the pulse and the temperature rise, the neck swells, but the inflammatory accidents subside generally in two or three days, and there is felt in the interior of the gland a hard kernel which diminishes little by little with the gland. In order to render the pain and perhaps the irritation less, Heller adds 15 milligrammes of morphine to the injection. Suppuration is rare.

Although this method usually gives more speedy results than medical treatment, it often requires several months before definite results are obtained. It is often necessary to renew the injections. Morell Mackenzie, who has had a large experience with this method, renews the injections about every ten days. In this case it is best to make them at different points. If the goitre presents several lobes, they may be taken successively, although the injection of one may suffice. If the goitre is very large, two injections, some distance apart, may be made at the same sitting.

The vascular goitre should not be treated by this method. For

the fibrous goitre it is especially applicable, and Mackenzie has had 59 cases in 73 cases treated by this method. L. W. C.

DIPHTHERIA AND TRACHEOTOMY.—Kroenlin. [*Archiv für Klin. Chirurgie*, 1877, bd. xxi., Sept. 2.) In the first portion of the communication the author gives a statistical report of 567 cases of diphtheria, which came under the care of Professor von Langenbeck, from January 1st, 1870, to July 31st, 1876. Of the 567 cases, 539 were brought to the hospital with the malady, while 28 contracted it there, while under treatment for other diseases.

Of the 567 patients, 379 (or 66.4 per cent.) died, while 190 (or 33.6 per cent.) recovered. Another table shows that the number of cases of diphtheria has steadily increased with each succeeding year, while the rate of mortality has constantly decreased. In 1869, the mortality in 72 cases of this affection was 86.0 per cent. The reason for this fact is not understood.

Only eight of those cases occurred in patients between 18 and 41 years; the largest number (102 or 18.8 per cent.) being found among children three or four years of age. It may be considered, as a general rule, that the younger the patient the more unfavorable is the prognosis, and that tracheotomy has no influence to alter this fact.

Tracheotomy was performed in all cases of laryngeal stenosis, regardless of pulmonary complications. The operation was performed 504 times; of these, 357 (70.8 per cent.) died; 85 of those operated upon were infants under two years, 11 of this class recovering, the youngest being seven months of age. In cases of surgical interference, death generally occurred on the first or second day, while after the fifth day fatal terminations were seldom recorded.

The occurrence of 28 cases of diphtheria in patients under treatment for other surgical diseases at the clinique (having a mortality of 18, or 64.2 per cent.) demonstrated that the collection of large numbers of diphtheritic patients in the wards of a hospital during many years, has an injurious effect upon the salubrity of the institution.

In the second part of his work, Dr. K. attempts to settle

other questions upon the observation of 241 cases of which he possessed complete and minute records. In 46 cases there were false membranes upon, and ulceration of, the nasal fossæ, but not of the pharynx; all of these were subjected to operation because of great tracheal stenosis. Of the remaining 195 cases, 31 exhibited no impediment to respiration, and consequently were not operated upon. The mortality among those operated upon was 71.7 and 73.7 per cent. respectively, while of those not tracheotomised, but 32.2 per cent. resulted fatally — a fact which proves that the local manifestation of the disease in the respiratory tract constitutes a fearful complication.

In those cases where the respiration was not perfectly free after the operation, the mortality was 25.2 per cent. greater than where it was; the course of those cases, where large masses of croupous membrane were expelled, was very unfavorable. Twenty-two of the children were brought to the clinique in a state of advanced asphyxia; they were operated upon without anæsthetics; two recovered.

In 66 cases the canula was removed between the third and seventeenth day; in one case (owing to granulations) not until six months had expired; of these 67 cases, 16 (23.8 per cent.) snbsequently died (causes: collapse 1, diphtheritic nephritis 1, pneumonia 2, exhaustion, due partially to difficult deglutition, 12).

Obstruction in deglutition was observed in 42 cases. It occurred between the first and forty-fourth day, but had no relation to the operation; the mortality of this class was 61.3 per cent.

Diphtheritic exudation on the wounds after tracheotomy was recorded in 50 cases, of which 28 died; beside this an exanthema was occasionally noticed in the thorax (anterior and posterior), neck, and in the immediate locality of the incision; albuminuria also was frequently observed.

Tracheotomy (except in asphyxiated cases) was performed while the patients were thoroughly anæsthetised with chloroform.

Treatment: After various medicaments had proved unsatisfactory, the treatment adopted since May, 1864, has been the local application of chlorine water penciled upon the affected

portions of the pharynx every hour or two; a few drops of a diluted mixture (aq. chlorini 1 to aq. pura 3 parts) were introduced into the canula. Diphtheritic abscesses and suppuration of the submaxillary lymphatic glands occurred 5 times in 241 cases, and in one case suppurative mediastinitis.

A microscopic examination of the pus showed micrococci in abundance.

INTUSSUSCEPTION CURED BY REDUCTION.—Prof. Schillbach at Jena. (*Centralblatt für Chirurgie*, No. 37, 1877.) On the 31st of July, Professor Schillbach was called to see a boy, 13 years old, who, having a few days previously suffered from a slight diarrhœa, was suddenly seized with intense pain in the abdomen, and with vomiting. Those symptoms had lasted 24 hours in spite of all applied remedies. Besides great depression of the vital powers, Professor Shillbach now found some tension of the whole abdomen, but more marked on the left side and upward from the umbilicus. Here about two inches above and to the left of the umbilicus, he detected an oblong curved body one and a half inches in diameter and four to five inches in length, the boundary of the upper portion of which was well marked, but the lower margin, indefinite; on percussion this body gave a subdued resonance, the surrounding parts being decidedly tympanitic. A slight pressure on the tumor produced great pain, while the remaining portions of the abdomen were not sensitive; the inguinal regions showed slight resonance and some tenderness; at no portion of the abdomen were the bowels abnormally distended by gases. No evacuation of the bowels had occurred after the severe symptoms transpired; the vomiting had ceased since 24 hours; the pulse was 100 and of medium fullness; the temperature of the skin was not unusually high, the hands somewhat cool; slight thirst and no appetite.

As there were no alarming symptoms, for the night Professor Schillbach directed cold compresses over the abdomen, postponing until the next visit the diagnosis and appropriate treatment.

The next day (August 1st) the nausea returned, the symptoms otherwise being those of the previous day; exploration per rectum furnished only negative results, the finger on withdraw-

ing showing traces of excrements, an enema returned bloody water but no fæces.

The symptoms thus excluding the presumption of hernia, volvulus, diffuse peritonitis or compression by tumors, there remained but one diagnosis, viz., that of intussusception, which explained the discharge of bloody water, due to contusion of the mucous membrane in the process of invagination.

As the case was recent, with no evidence of diffuse peritonitis, and sufficient time had not elapsed for plastic adhesions, the Doctor was persuaded to try reduction of the intussusception. For this purpose he employed a flexible rubber tube, with apertures at the extremities, and a rubber-bulb syringe. Introducing the tube into the anus, and advancing it cautiously to the location of the tumor, he found a resistance, which was soon overcome by a stream of lukewarm water thrown against it; and then the tube, without much distress to the patient, was introduced sixty centimetres, when an examination of the abdomen showed that the tumor had entirely disappeared.

The remaining part of the day the patient slept at intervals, having no pain or other symptoms of illness, and at night the bowels discharged 1½ litres of offensive, bloody liquid, accompanied by flatus.

On the morning of the 3d of August, the patient experienced painful tenesmus, and discharged five or six scybala, with ½ litre of bloody fluid; the abdomen was slightly tender.

On the following day he had the first normal movement of the bowels, and subsequently convalescence progressed favorably.

IV. THERAPEUTICS.

QUININE EXANTHEM.—Prof. Köbner, of Breslau (*Berl. Klin. Wochenschr.*, May 28 and June 8), reports a case where a syndrome closely resembling scarlet fever resulted from even a small dose of quinine. The symptoms consisted of a chill, sometimes repeated, a feeling of precordial anxiety, nausea, vomiting, intense headache, high fever and angina, followed, after a few hours, by an erythematous eruption on the face, which spread rapidly

over the whole body. This eruption was attended by intense itching and burning, by slight œdema of the face and injection of the conjunctiva. The color disappeared for a moment under pressure. The angina affected only the posterior wall of the pharynx, the soft palate and pillars being normal. The symptoms abated, and desquamation began after a variable length of time, according to the amount of quinine taken. Three times within five months was the patient attacked in this manner.

Dr. Von Hensinger, of Marburg, reports two cases similar to the above, except that the eruption was confined to the face. Both patients were women; one of them had formerly taken quinine without inconvenience. M. E. K.

ON IODOFORM.—Lailler. (*La France Médicale*, Oct., 20, 1877.) EXTRACT FROM A CLINICAL LECTURE DELIVERED AT THE SAINT LOUIS HOSPITAL.

Iodoform is a compound of iodine, hydrogen and carbon, or the hydriodide of carbon, and was discovered by Sérallas in 1822. In 1834, Dumas gave it the name iodoform, because of the analogy it presented to chloroform and bromoform.

It is obtained by the action of an alkali upon an alcoholic solution of iodine, and it is a crystalline body in hexagonal lamellæ, of a brilliant lemon-yellow color, and a peculiar, penetrating and persistent odor, which is readily recognized when it has once been perceived. It is partially volatilized under the action of a moderate heat. While it is scarcely soluble in water, it is readily dissolved in boiling alcohol and ether.

Among the physicians who have carefully studied iodoform is M. Bouchardat. Upon several occasions he has called attention to this product, and has demonstrated that it contains 90 per cent. of iodine. He has likewise discovered a special procedure for obtaining it.

In 1860, M. Righini, of Navarre, of the Brussels Society of Medical and Natural Sciences, read a very complete manuscript upon iodoform, which was written in a rather exaggarated style.

It would seem that in France first iodoform was specially studied and employed in a systematic and sustained manner.

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Thus, in 1853, Messieurs Moretin and Humbert presented to the Academy a work on the subject, which was followed by the inaugural thesis of M. Moitre of similar title. But, in spite of all these interesting publications, iodoform was neglected for several years.

In 1859, when I was the physician of the Lourcine Hospital, I began to employ it, and the favorable results obtained, determined me to make a wider application of its value. During my service of three years I had no reason to regret this course. Upon my arrival at the St. Louis Hospital, I had an opportunity to use it still more extensively, and to decide in the clearest manner as to its incontestable value. In order to be assured of this, it is only necessary to read the papers since published by Besnier, Demarquay, Féréol, Maillard, Nieszkowski and Petiteau.

What is the mode in which iodoform should be employed?

Up to the present time, its use as internal medicament has given results of little value, as the researches of M. Righini and myself clearly show. This is a question which has yet to be studied.

Its topical action is very marked in a twofold direction—it is both anæsthetic and promotive of cicatrization.

Its action as an anæsthetic, permits us to make use of it to relieve the pain of fissures of the anus, hæmorrhoids, ulcerations of the throat, ulcerative cancers, and in particular, those of the face, mouth, breast, and cervix uteri. The action of iodoform, in all these cases, is quite rapid. In order to use it to the best advantage, it should be reduced to a very fine powder, and be carefully applied to every part of the diseased surface. The simplest method of obtaining it in this form, is to dissolve it in sulphuric ether, and then permit the ether to evaporate, when it is left in the form of an impalpable powder. In certain regions, particularly that of the anus, it is well to associate it with other substances, cacao butter for example, as the suppositories thus made, facilitate the application of the remedy. In general, the employment of the powder only is preferable, and I will add, in this connection, that you may employ it fearlessly in considerable quantity, as I have never seen accidents from such a course. I have never, it is true, made use of very large amounts at one

time. But Demarquay, who has employed it in the treatment of a great number of wounds, *largâ manu*, has never had occasion to regret it.

The action of iodoform, by which it favors cicatrization, is quite as remarkable as its anæsthetic property. In general terms, it may be said that the substance modifies ulcers of every variety. It is often astonishing to note the rapidity with which, under its influence, favorable changes and cicatrization occur, in soft chancres, ulcerative buboes, mucous patches, and syphilitic ulcerations of all kinds. Phagedena is often arrested in its course by a few applications of powdered iodoform, and not unfrequently onyxis is completely relieved in a few days after its topical use, though the last named affection is well known for its rebellious character and its ordinary duration of several months.

You have seen the results obtained in my service in all the cases just described. For some time past I have attempted, with success, to treat, by the employment of this remedy, scrofulous ulcers, lupus and epithelioma. You can note the subjects of these various disorders in the wards, and the sensible amelioration of their condition which has resulted.

Under the influence of iodoform, inflammatory phenomena disappear, and granulations lose the flabby look which is characteristic of many scrofulous ulcers. In fact, it is often necessary to repress exuberant granulation by the employment of the crayon of nitrate of silver. The wound, thus modified, rapidly cicatrizes, and the progress accomplished in the space of one day only is often remarkable.

How does iodoform operate to produce these results? M. Féréol admits that, as a powder, it is inert; for myself, I believe that the iodine is the effective element, for, as has been said, the powder contains ninety per cent. of the latter.

I have hitherto referred merely to the value of the medicament. It remains for me to indicate the objections to its use. Iodoform has a most penetrating and insupportable odor, on account of which it is often necessary to abandon its employment, and, for the same reason, patients sometimes absolutely refuse the treatment.

It would be well to dispose of this objection. Renaut,

concurring with me in the belief that iodine is the active principle, concluded to make a compound of talc and iodine, which he termed "iodated talc," and with which various experiments were made by him in my wards. The results were fairly satisfactory, but much less perfect than those due to iodoform itself. It has also been thought that camphor in powder would serve as a substitute, but comparative trials have not been favorable to the use of the latter. Its odor, truly, is not disagreeable; but then it presents none of the properties of iodoform, does not modify the character of ulceration, nor act as an anæsthetic.

I have found nothing to replace iodoform, the latter having, in my judgment, more valuable qualities than inconveniences. Certain precautions are to be observed in its application. It should never be applied to other than perfectly clean wounds. Atomization of warm water will answer for the purpose of cleansing them; then they should be carefully dried, and the powder applied. The fineness of the powder permits of its entrance in all the anfractuosities of the ulcer. Once applied, Féréol advises to cover the wound with charpie, oakum, or diachylon. The dressing may be repeated daily, or twice daily, at the outset — progressively less frequent as cicatrization advances.

In order to better apply the iodoform to deep lesions, situated, for example, in the throat or uterine neck, I have devised a procedure, which I have experimented with for several days, and which has thus far given good results. It consists in dissolving one part of iodoform in ten of ether, and atomizing the solution with Richardson's apparatus.

By this means, the atomizing tube being curved, and of sufficient length, the jet of the spray can be easily directed upon the parts mentioned, and all the diseased portions at once covered with a more or less thick layer (according to the requirements of each case), of a fine and impalpable powder, which adheres to the surface much more intimately and permanently than by other methods.

To give you an idea of the extent to which the employment of iodoform has increased, I append some figures which indicate the

annual consumption of this product in the hospitals of Paris: In 1859, 250 grammes were used; in 1866, 600 grammes; in 1869, after the publication of the researches of Demarquay, Besnier, and Féréol, 20 kilogrammes; in 1873, the time of the siege, 33 kilogrammes; lastly, in 1875, 28 kilogrammes (about 56 pounds).

So you see this remedy has made its own way. It will remain in the arsenal of therapeutics, and render incontestable service when judiciously employed.

URETHRITIS PROVOKED BY ARSENICAL PREPARATIONS.—*Jour. de Médecine*, Nov. 1877.) M. Saint-Philippe describes, in the *Gazette Médicale de Bordeaux*, certain accidents to the urethra from the use of arsenical preparations. A patient of M. Saint-Phillippe, suffering with malarial fever, was given arsenic, of which he took only four milligrammes. At the end of some days, however, he was seized with symptoms of poisoning, vomiting, colic, diarrhœa, etc., and was obliged to suspend treatment. The day after he was attacked with urethritis, which was treated in the classical way, and lasted fifteen days. The patient declared that he had not been exposed by any veneraal act for more than two months.

Another patient, suffering with scaly affection of the skin, was given arsenic, but, by mistake, took double the dose prescribed, so that in eight days he had taken sixteen milligrammes of the medicine. The same accidents followed, the urethritis being treated as usual, and lasting about fifteen days. In this case, also, the patient had not been exposed by venereal acts. M. Saint-Phillippe believes, then, that it is rational to suppose that the arsenic, in being eliminated by the urinary organs, may produce the same accidents which it does in the digestive system. He believes the irritation to be toxic, rather than physiological, which accounts for its rarity in practice.

L. W. C.

FORMULA FOR NIGHT SWEATS.—Porcher. (*L'Union Médicale*, Nov. 6, 1877.)

Sulphate of Atropine - - -	1 centigramme.
Extract of Gentian - - -	10 "

Acacia q. s. to make 10 pills.

Dose, one or two a day for the night sweats of consumptives.

ANTI-ASTHMATIC ELIXIR. — Desnos. (*L'Union Médicale*, Nov. 10, 1877.)

Snakeroot - - - - - .	3 grammes.
Water - - - - - -	125 "

Boil until reduced one half, strain and add iodide of potassium, 6 grammes.

After cooling, add

Brandy - - - - - -	60 grammes.
Syrup of Opium - - - -	120 "

Filter. Dose two or three tablespoonsfull a day for asthmatics; the first before breakfast and the other between meals.

L. W. C.

Medical News and Items.

ORIGIN OF THE TERM SYPHILIS.—Upon this subject the *Louisville Medical News* of December 1, 1877, publishes the following communication from Dr. James Nevins Hyde, of Chicago:

"In your issue of the 3d instant, I find a paragraph, copied from the *London Medical Press and Circular*, in which it appears that Dr. L. P. Yandell, Jr., has offered a new theory as to the origin of the term syphilis. According to the latter, the first popular name of the disease was *morbus civilis*, i. e., the "citizens' or town disorder"—terms used "by the lower classes, and especially among the rustics." It is suggested the word *morbus* was dropped for the sake of brevity, and that the subsequent transformation of *civilis* into syphilis is not remarkable, in view of the fact that chancre was once spelled "shanker," and scrofula "scrophula."

"This quite ingenious and plausible explanation suggests the inquiry whether it can be sustained by the facts already known concerning the history of the word. We are led to ask, *what* rustics first employed the term in its original form? Certainly not those of the old Roman Campagna, for Hippocrates, Celsus and their immediate successors never thus designated the disease, although they had frequent need of a periphrasis for that purpose, and would surely have been careful to append the popular name had such existed. Even if they had failed to do this, such a popular term would have almost inevitably crept into the writings of such authors as Plutarch, Martial and Horace, all of whom refer to the disease in unmistakable phraseology.

"The truth is that the word syphilis never made its appearance in literature of any kind before Hieronymus Fracastorius, the Veronese physician, in 1521, wrote his famous poem in

which the herdsman of King Alkithous, named Syphilus, is smitten with the disease by Apollo, as a penalty for his offense against the god. According to G. Fallopia, the name was derived from the Greek words which are commonly supposed to explain the ignoble origin of the malady. Twenty-five years later, Fracastor employed the term in his second work upon the same subject.

"Now, since it is admitted that Fracastor first employed the word syphilis, it is fair to ask, if the word was not actually coined by him, whence did he borrow it? He was at the time one of the chief luminaries of the Italian school. Did he first hear the mis-pronunciation upon the lips of the Italian peasants around Verona?

"It may be safely concluded that the most illiterate of Italian rustics would never pronounce in such a manner as to change the sound represented by v into that of ph. He might, indeed, under some circumstances, convert ph into f, but his unconscious law of metastasis would never permit the reverse of this. The Italian of to-day spells syphilis *sifilis*, and transforms the initial ph of all words of Greek origin into f; but his *civile* of to-day is accepted from his Roman ancestors without change, and he has never suffered the loss of the v of his forefathers. Even the Frenchman, who has adopted the Greek ph in its original form, writes *sulfure* and *calife* for sulphur and caliph; while he and his southern neighbor have alike softened the b of *habere* and similar words, into the v of *avoir* and *avere*.

"There is a law to be observed even in the aberrations of the lips and tongue, which the English sailors demonstrated when they affectionately christened their 'Bellerophon,' the 'Bully Ruffian.'

"In short, while the natives of Southern Europe have again and again transformed b into v, and ph into f, it is altogether improbable that they have ever converted ph into v, and physically impossible for them to exchange v for ph, so that *civilis* in their lips could be represented by *syphilis*.

The letters y p h in syphilis point as unmistakably to its Greek origin, as its mucous patches to a primary lesion. Fracastor was, it is true, under the influence of the astrological ideas of the

physicians of his day; but he was an erudite author, and drew an eminently graphic picture of the disease as he saw it. He was quite capable of coining the word which he introduced into medical literature, and which, we trust, may survive the disease itself, but whether he coined or borrowed the term, its parentage in the Greek language is as distinct as the source of hereditary syphilis.

"And I am inclined to believe that my good friend, Dr. Yandell, will, after consideration, accept my conclusions."

LIST OF PERSONS WHO PASSED THE EXAMINATION of The Illinois State Board of Health, held at Chicago, November 1, 1877, fourteen candidates: James P. Pearson, Fairbury, Ills.; Herbert Wheeler, Grant Park, Ills.; Max. Muffas, Wheeling, Cook Co., Ills.; Elias Miller, Fairbury, Livingston Co., Ills.; Royal McShea, Owaneco, Christian Co., Ills.; C. C. Watson, Chicago, Ills.; Edward Armstrong, Northville, LaSalle Co., Ills.

The following were successful at a similar examination held at Cairo, November 15, 1877, forty-two applicants: D. L. Gebhart, Metropolis, Massac Co., Ills.; Julius C. Gebhart, Massac Creek, Massac Co., Ills.; A. R. Ransom, Grantfork, Madison Co., Ills.; R. P. Lightfoot, Carbondale, Ills.; D. C. Asher, New Burnside, Johnson Co., Ills.; John W. Jeffries, Sauer, Jefferson Co., Ills.; Thos. J. Green, Phillipstown, Ills.; E. H. Wheeler, Gillsburgh, Jackson Co., Ills.; John Keese, Dongola, Union Co., Ills.; John W. Ross, Fitts Hill, Franklin Co., Ills.; H. L. Burnett, Raleigh, Ills.; W. S. Harvey, Beverley, Adams Co., Ills.; Henry C. Buck, Olmsted, Pulaski Co., Ills.; Wm. P. Sutherland, Golconda, Ills.; Geo. W. Hendershott, Mill Shoals, White Co., Ills.; John Wm. Mott, Villa Ridge, Ills.; Ch. H. Cristoffe, French Village, St. Clair Co., Ills.

The following passed successfully the examination held at Galesburg, December 6, 1877,—eighteen candidates: Wm. S. Williamson, Rio, Ills; J., Parker, Ipava, Ills.; Z. T. Harvey, Brooklyn, Schuyler Co., Ills.; Boggs, M. C., Gerlaw, Ills.; F. F. Noyes, Ray, Schuyler Co., Ills.; Wm. Parker, Huntsville,

Schuyler Co., Ills.; Chas. M. Verbrees, Murrayville, Morgan Co., Ills.; Thos. A. Scott, Kirkwood, Warren Co., Ills.

At this meeting a resolution was unanimously adopted by the Board to the effect that the diplomas of the St. Louis Homeopathic College, of the Physio-Medical College and the Physio-Eclectic Medical College, of Cincinnati, Ohio, would not be recognized.

The following resolutions were also passed unanimously:

Resolved, That on and after July 1, 1878, the Board will not consider any medical school in good standing that holds two graduating courses in one year.

Resolved, That on and after July 1, 1878, the Board will not recognize the diplomas of any medical school which does not require of its candidates for graduation the actual attendance upon at least two full courses of lectures, with an interval of six months or more.

AT THE annual meeting of stockholders of the CHICAGO MEDICAL PRESS ASSOCIATION, held December 4, 1877, Drs. J. P. Ross, E. Ingals, and J. H. Etheridge, were elected to fill the vacancies created by the expiration of the term of office of Drs. Ross, Bridge and Etheridge. The Treasurer's report showed that the Association was able to sail along smoothly in spite of hard times and slow payments.

The Librarian reported that the collection contained to date 526 bound books, and about as many miscellaneous pamphlets; 75 reports of hospitals, asylums, etc.; 200 announcements and catalogues, and 6,400 copies of medical journals. The whole collection, with the exception of 70 books purchased, has been acquired by donation, and by exchange with the JOURNAL AND EXAMINER, and with the Library.

The system of cataloguing and indexing by cards has been introduced during the past year, and about 5,000 cards have been, so far, written and are now in use.

The system of circulation of journals introduced several months ago, has worked satisfactorily, and quite a number of members have availed themselves of its advantages.

THE PHYSICIAN'S HAND-BOOK FOR 1878, by Wm. and A. D. Elmer, needs no further recommendation than the statement of its having attained the age of twenty-one years. It is a *minor* no more, and can well take care of itself.

The editors inform us of their intention to entirely re-write the next edition. We hope they will not materially change the character of a book which has proved so useful to the profession; but we would suggest they might leave out the list of diseases, and that of the remedial agents. The omission of these lists will be no loss to any practitioner, but lighten the book materially.

DR. LEWIS A. SAYRE, under date of Oct. 15, 1877, addresses a communication to the editor of the *Phila. Med. Times*, in which he refutes the charge of plagiarism preferred against him in the *St. Louis Clinical Record*, as follows:

Charge 1st. "Dr. Sayre's hip-joint splint was invented by Dr. Davis." To refute this I refer you to the "Transactions of the American Medical Association" for 1860, pages 505 to 508, and by referring to the Patent Office at Washington, "Synopsis of Specifications," No. 35,303, you will see that Dr. Davis took out a patent for his splint, which you will observe in the specifications is entirely different from mine, which was given to the profession, as well as its various modifications and improvements, as soon as tested and proved to be useful. I also refer you to my "Orthopedic Surgery and Diseases of the Joints," Appleton & Co., 1876, pages 260, 261, to prove the falsehood of this first charge.

Charge 2d. "Dr. Sayre's plaster-of-Paris jacket was invented and first applied by Dr. Bryan, of Lexington, Ky."

Answer. See my report on Pott's Disease, "Transactions American Medical Association" for 1876, page 585, where you will see full justice has been done to Dr. Bryan; also *Richmond and Louisville Medical Journal* for May, 1877, page 418; also my recent work on "Spinal Curvatures and their Treatment by Suspension and the Plaster-of-Paris Bandage," Smith, Elder & Co., London, Eng., 1877, page 14. Any honest man reading

these three references, I think, will never again repeat this charge.

Charge 3d. "Dr. Sayre's method of self-suspension in rotary lateral spinal curvature was invented by Dr. Benjamin Lee, of Philadelphia."

Answer. See my work on spinal curvature above referred to, Smith, Elder & Co., London, page 93. For fear that you may not be able to obtain the book in this market at present, I will quote the sentence on page 93 to which I refer:

"The late Prof. Mitchell, of Philadelphia, used to treat cases of lateral curvature by suspending them under the arms, and causing them to suspend themselves by the hands. But Dr. Benj. Lee, of Philadelphia, was the first person who caused his patients to practice *self-suspension*, by climbing up a rope which passed over a pulley and was attached to the patient's head by straps passing under the chin and occiput." I think this answers that charge.

Charge 4th. "Dr. Sayre's Lectures on Orthopedic Surgery were by Dr. Louis Bauer, formerly of Brooklyn, New York, now of St. Louis."

Answer. By referring to the preface of my book on "Orthopedic Surgery and Diseases of the Joints," Appleton & Co., New York, 1876, it will be seen that the book was published from stenographic notes of my lectures in Bellevue Hospital Medical College, session of 1874-75, taken at the time by Dr. Wesley M. Carpenter, of this city. Most of the lectures were upon cases presented at the time in the lecture-room, and which Dr. Bauer could never have seen, as he at the time lived in St. Louis. The statement is, therefore, too absurd to demand any further notice. The general charge of plagiarism in the last sentence quoted from the *Record*, not being *specific*, cannot be *specifically* refuted, but to it I make a general denial.

THE WARREN PRIZE.—The Warren Prize Committee, consisting of the visiting physicians and surgeons of the Massachusetts General Hospital, have awarded the prize of the present year, amounting to $371.41, to E. O. Shakspeare, M. D., of

Philadelphia, for an essay on "The Healing of Arteries after Ligation."

The committee also announce that the subject for 1880 will be, "Original Observations in Physiology, Surgery and Pathological Anatomy."

Essays should be forwarded to the resident physician, Massachusetts General Hospital, Boston, on or before February 1, 1880. The amount of the prize will be $400.

The conditions of the prize lately awarded were similar to those given in the announcement, the object, we understand, being to stimulate original researches. As evidence of the success of the plan to leave to the competitors the choice of a subject within certain limits, it may be mentioned that the number of essays presented was large. We learn that a dissertation on Pneumono-Dynamics and one on Certain Points on the Physiology of the Nervous System were highly praised by the committee for their merit. A third, on Bone, was much admired for the superb illustrations which accompanied it and the great labor which its prepararion evinced, particularly that portion devoted to Dentine.

THE ILLINOIS CHARITABLE EYE AND EAR INFIRMARY (cor. Peoria and W. Adams streets) has lately been enlarged by the erection of a three-story wing on the Peoria street front. This addition may be called the dispensary department of the infirmary, for its main part is fitted up for the reception and treatment of the out-door patients. The entrance from Peoria street leads by a small vestibule into a spacious reception room, where from one hundred to one hundred and fifty patients can easily be seated. The second floor is divided up in a room for the treatment of the ear patients, a room for the treatment of eye patients, and an ophthalmoscopic room. The treating rooms are large and high, supplied with warm and cold water; and many windows reaching from the floor to the ceiling, admit so much light from north and west, or north and east respectively, that the light is sufficient even on the cloudiest day. The dark room, in direct communication with the eye room, is provided with all the facili-

ties for ophthalmoscopic examinations, and large enough to allow eight persons to make such examinations simultaneously.

The third floor is given up entirely for an operating and clinical lecture room, with which a smaller room is connected for the accommodation of patients waiting for the operation, or to rest and recover from the effects of the narcosis after the operation. A large sky-light above the operating table, furnishes a beautiful light to perform the most delicate operations. A broad and easy stairway, broken by several landings, leads from the first floor to the top of the building. The operating room communicates by a hall-way with the second floor of the main building, on which floor the rooms for operative cases are located.

By this arrangement patients can most easily and safely be removed from the operating table to their rooms. The second floor also has a communication with the main building, for the use of the surgeons and officers of the infirmary. But the dispensary patients are strictly prohibited to enter the main building, whose quiet and cleanliness is thus not disturbed by the daily rush of a noisy crowd of patients.

In its present form, the infirmary is probably the completest and finest building of its kind in this country, and Illinois may well be proud of this charity.

THE STATE BOARD OF HEALTH AND ITS MEDICAL EXAMINATIONS.—We have taken pains to carefully examine the method pursued by the members of the Illinois State Board of Health in examining non-graduates in medicine who apply for a license to practice; and have also critically read the entire list of all questions proposed to such candidates on the printed papers. We felt that the profession at large was concerned to such an extent as to warrant the scrutiny, and, as a result, we have no hesitation in declaring that the tests are ample, and that the standard is such as would do credit to all the medical schools of the State.

ANNOUNCEMENTS FOR THE MONTH.

SOCIETY MEETINGS.

Chicago Medical Society—Mondays, Jan. 7 and 21.

Chicago Society of Physicians and Surgeons—Mondays, Jan. 14 and 28.

CLINICS.

MONDAY.

Eye and Ear Infirmary—2 to 4 p. m., by Prof. Holmes and Dr. Hotz.

Mercy Hospital—2 to 3 p. m. Surgical, by Prof. Andrews.

Rush Medical College—1:30 p. m. Medical, by Dr. Bridge.

County Hospital—8 p. m. Necropsy, by Dr. Danforth.

Woman's Medical College—3 p. m. Surgical, by Prof. Owens.

TUESDAY.

County Hospital—1:30 p. m. Medical, by Prof. Bevan; 2:30 p. m. Surgical, by Dr. Bogue.

Mercy Hospital—2 p. m. Medical, by Prof. Hollister.

Eye and Ear Infirmary—2 p. m. Prof. Jones.

WEDNESDAY.

County Hospital—1:30 p. m. Gynecological, by Prof. Fitch; 2:30 p. m. Ophthalmological, by Dr. Montgomery.

Mercy Hospital—2 p. m. Eye and Ear, by Prof. Jones.

Rush Medical College—4 p. m. Diseases of the Chest, by Prof. Ross.

THURSDAY.

Mercy Hospital—2 p. m. Medical, by Prof. Davis.

Rush Medical College—1:30 p. m. Neurological, by Prof. Lyman.

Eye and Ear Infirmary—2 to 4 p. m. Operations by Prof. Holmes and Dr. Hotz.

FRIDAY.

Mercy Hospital—2 p. m. Medical, by Prof. Davis.

County Hospital—1:30 p. m. Medical, by Prof. Ross; 2:30 p. m., Surgical, by Prof. Gunn.

Woman's Medical College—10 p. m. Ophthalmological, by Dr. Montgomery.

SATURDAY.

Rush Medical College—2 p. m. Surgical, Prof. Gunn.

Chicago Medical College—2 p. m. Surgical, by Prof. Andrews and Isham; 3 p. m., Diseases of the Chest, by Prof. Johnson.

Woman's Medical College—12 m. Gynecological, by Prof. Fitch; 3 p. m. Dermatological, Dr. Maynard.

Special Clinics daily, from 2 to 4 p. m., at the South Side Dispensary, and at the Central Free Dispensary.

For schedule of lectures at the colleges, apply to the college janitors.

THE

Chicago Medical Journal

AND

EXAMINER.

VOL. XXXVI.—FEBRUARY, 1878.—NO. 2.

Original Communications.

A CASE OF EXTRA-UTERINE PREGNANCY.

A CLINICAL LECTURE,

BY WM. H. BYFORD, M. D.

(Delivered at the Mercy Hospital, and reported by C. D. Jones, M. D.)

Gentlemen: The case I present you to-day is one of supposed extra-uterine pregnancy.

Dr. Charles Cowles, of Barraboo, Wisconsin, brings the patient to the Mercy hospital with the hope that something may yet be done to save her life. Dr. Cowles is an intelligent and experienced physician, and gives the following clear and interesting narrative of the circumstances of the case up to this time:

Mrs. M. is thirty-six years of age, married, and the mother of two children; the first is now fifteen years of age, the other thirteen.

Her last labor was a difficult one, and after it the patient was attacked with puerperal metro-peritonitis, from which she recovered after a protracted illness of five months duration. Her menses returned at the end of 12 months, but she did not regain her usual vigor under five or six years.

In the early part of the year 1874, she experienced the ordi-

nary symptoms of pregnancy, and believed herself to be in that condition. About three months from the beginning of these symptoms, she noticed bloody discharges from the vagina. They occurred once in three or four weeks. In October, her medical attendant believed the ovum passed away. There were one or two slight discharges after this time. But in contradiction of this opinion, she declared that she felt fœtal movements, and very soon the motion could be felt through the abdominal walls, and by auscultation the beating of the fœtal heart could be distinguished. As time passed, the movements of the fœtus became so painful that she took large doses of morphine for relief. Not long after this practice was begun, the movements of the fœtus ceased. This occurred about three weeks before the time she expected to be confined. The fœtus apparently died Feb. 25, 1875, when Dr. Cowles saw her for the first time, and became the regular attendant; so he found it unnecessary to interfere, and very properly recommended her to wait. He was called again on the 10th of March, and says she presented all the appearances of the first stage of labor. He made an examination of her vagina, and was surprised to find the cervix presenting the conditions of an unimpregnated uterus. He passed his finger into a somewhat patent os uteri, but found no presenting part. He then passed a flexible catheter six inches into the cervix of the uterus, without meeting any obstruction. The patient was afraid that there was no fœtus in that organ, and that delivery was impossible—at least in the natural way. In a little time the pains ceased and did not recur; and the patient recovering, resumed her ordinary avocations without much inconvenience.

Things went on in this way until August, 1877. At this time, while walking she came near falling, and after a severe effort to recover herself she felt sharp pains, referred mostly to the left hypochondriac region. General enlargement of the abdomen was noticed soon after this, which has continued to increase up to the present time. The urine became scanty and albuminous, and rapid deterioration of health caused her friends to become alarmed. Her pulse and temperature were both increased, tongue became furred, bowels constipated, and the abdomen, by the middle of October, was increased to twice the size of full-term pregnancy.

The doctor administered diuretics and hydragogue cathartics with decided relief, but he soon became convinced that there was but one way out of the difficulty, and he recommended her to seek relief by coming to Chicago.

She at once assented, and he came with her and, as I have before stated, placed her in the Mercy Hospital, as a last resort.

Now, Gentlemen, this is a pretty clear history of extra-uterine abdominal pregnancy, and if the statements so lucidly given are true, and I see no reason to doubt them, there can hardly be a question of the diagnosis.

Upon making a vaginal examination, I find by the sound the uterus still five inches long, and fixed to the right side of the pelvis. It is very closely connected to a tumor in the right iliac region, plainly perceptible through the abdominal wall at this point. This tumor appears to be very nearly the size of the fœtal head, very hard and only slightly movable. The whole abdomen, as you see, is very much distended with fluid. Fluctuation is very apparent everywhere, except in the region of the tumor, in the iliac region. Upon making sudden and forcible pressure, pressing down the abdominal walls, through this fluid there may be felt a large, irregular, floating body; there is so much fluid, however, that it is impossible to clearly make out the shape of this body. Near the left hypochondriac region, a round hard substance may be felt, that much resembles the head of a fœtus. Prof. N. S. Davis has examined the patient, and joins me in recommending that an effort be made to relieve the patient by a surgical operation.

The following is an account of the operation which was performed at 2:30 p. m., Nov. 8th, 1877, and of the observations made at the time:

An incision about three inches long in the median line, extending to within about one inch and a half of the symphysis pubis, was made down to the peritoneum. This membrane was very dark colored and extremely vascular. One vein as large as a goose-quill could be seen at the bottom of the incision. After drawing off a small quantity of the fluid by an exploring trochar, the membrane was divided. A great quantity of dark green fluid flowed through the opening. As the abdominal walls collapsed,

the irregular outline of the floating mass became very perceptible. The fingers, introduced through the wound, came immediately in contact with a foot of the fœtus, which was drawn out. The incision was then enlarged enough to extract a well-preserved fœtus, which, as was afterwards ascertained, weighed four pounds and eleven ounces. The cord was about two feet long, in a good state of preservation; one end was attached to the umbilicus, and the other was connected to the tumor in the right iliac region, which proved to be the placenta. This last organ was very firm and strongly attached to the uterus, the bladder, and the pelvic brim on the right side, and extended two inches into the iliac fossæ. No attempt was made to remove the placenta, but a strong silk ligature was tied around the cord at its junction with the placenta, and allowed to hang out of the lower end of the wound and the cord divided near it. The fluid was removed from the peritoneal cavity with fine sponges, and the wound closed with silk sutures, as in cases of ovariotomy. The lower end of the wound was left open for three-fourths of an inch for drainage. The external dressing consisted of a thick compress of cotton batting and binder. The patient was then placed in bed and watched until she aroused from the effects of the ether. The operation lasted about twenty minutes.

Two very significant circumstances are mentioned in the history given us by Dr. Cowles. After her last confinement, fifteen years prior to the operation of the extra-uterine pregnancy, the patient suffered with a severe form of metro-peritonitis, from which she recovered after an illness of several months in duration. This inflammation, in all probability, so marred the structure of the Fallopian tube of the right side, as to make it incapable of seizing and transmitting the fructified ovum to the uterus; thus leaving it on or near the ovary, where it found attachment, and became developed into the fœtus and appendages.

The other circumstance I would mention is, the severe and sudden strain to which the abdominal muscles were subjected in the effort the patient made to save herself from falling. From the entire absence of suffering, the want of every disagreeable symptom arising from the presence of the fœtus in the abdominal cavity up to the time of this exertion, and the sudden superven-

tion of peritoneal inflammation, with its consequent effusion of serum, I am led to infer that the fœtus was discharged from its innocuous position at that time. Anyway, it was the date of the commencement of the array of symptoms that induced the disastrous condition afterward realized. From that time the abdominal pain and enlargement can be traced until they eventuated in a broken-down and serious state of health. The appearance of the fœtus, its umbilicus and cord, would also encourage this view; for, as you see, the membranes closely envelop the chord for about two inches from its attachment to the placenta, preserving it in a very remarkable state of freshness. The rest of the cord, up to near its umbilical implantation, is deprived of this extra envelope. Throughout this extent, the cord—which is about twenty inches long—shows signs of maceration. I think that these appearances will fully justify us in concluding that the membranes, while the ovum laid quiescent on the right side, included the whole of the cord coiled up within them, and that when the membranes were torn off from around the umbilicus, it was left floating in the peritoneal fluid and subject to maceration.

Nov. 8, 4 p. m.—Patient rallies from the influence of the ether very slowly; pulse 90, and very feeble; she has vomited several times since the operation.

Eight p. m.—Pulse 78, small and weak; has not vomited since 7 o'clock. The patient has fully recovered her mental faculties, and asks about the results of the operation. At 7:30, she voluntarily passed urine.

Half-past nine, p. m.—Pulse, 78; temperature, 99 2-5°; is resting quietly.

Twelve, midnight.—Urine was drawn with the catheter. The patient is comfortable, and has had a few minutes sleep; pulse, 90, and recovering its strength.

Nov. 9th, 2 a. m.—Pulse, 90; temperature, 99 4-5°. She has had some pain in the abdomen, and feels as though her bowels would move. Up to this time the treatment had consisted of the application of external warmth to the extremities and about the body, and plenty of covering; ¼ grain of the sulphate of morphia was administered hypodermically.

Four a. m.—Has rested well, but has not slept; pulse, 72, still feeble.

Seven a. m.—Pulse, 90; temperature, 101 2-5°; has not vomited since 7 p. m. yesterday, and has taken some beef essence; during the night is very thirsty, and is allowed ice and ice-water.

Half-past ten a. m.—Dressed wound with lint moistened in carbolic oil. There is no discharge from the wound. Pulse, 108, and weak; tongue moist, and coated with brown fur; since last visit has taken a teacupful of milk-porridge.

Four p. m.—The patient has just vomited; pulse, 120, weak and small; temperature, 101°. Since last visit has had several tablespoonfuls of milk and lime-water, and two ounces of beef essence, containing forty drops of the deodorized tincture of opium.

Half-past seven p. m.—Pulse and temperature same as last visit; patient vomits frequently the water or other fluid taken; has pain in abdomen; an enema of two ounces of beef essence and fifteen drops of deodorized tincture of opium was given. At this visit, thirty minims of brandy were given hypodermically.

At 9:15 a. m.—Gave thirty minims of brandy in same way, and beef essence by enema, in which was dissolved fifteen grains of quinine. The pulse is now 138, very small and weak; temperature, 101°; vomiting still continues.

Twelve, midnight.—Pulse, 140, and very weak; temperature, 101°; feels comfortable. Beef essence administered, but rejected from the rectum. Hypodermic injection of forty minims of brandy, with one-sixth of a grain of morphia dissolved in it.

Nov. 11, 3 a. m.—Pulse, 140; complains of cold feet; gave an enema of beef essence, fifteen grains quinine, and thirty drops deodorized tincture of opium; bottles of hot water to the feet.

At 4 a. m., pulse was almost imperceptible, and 150; gave thirty minims of brandy hypodermically.

Six a. m., temperature 99°.—The patient says she feels better; feet and hands are warmer, pulse 130. Introduced the catheter but there was no urine in the bladder.

Nine a. m.—No material change, gave enema of one ounce of beef essence, containing 15 grains quinine. The patient asked for a cup of warm tea, which she drank with a relish. She has some bloody discharge from the vagina.

Twelve m.—No change in pulse and temperature, extremities

still somewhat cold. Dressed wound. There is a free discharge of bloody serum from it, 30 minims of brandy saturated with quinine injected hypodermically.

Six p. m.—The patient has vomited several times during the afternoon; has had champagne several times. Her pulse is 140, temperature 99 3-5. To have 30 minims of saturated solution of quinine in brandy hypodermically, beef essence and quinine by enema as before.

Twelve midnight.—Pulse 130, stronger, temperature 99 3-5; still vomits occasionally, has had quinine and brandy hypodermically every two hours, and two enemata of quinine in beef essence. Drew about six ounces of urine. She has rested well during the night, but has not slept. It will hardly be necessary to further give the minutes of treatment in detail. Every effort was made to sustain her strength by hypodermic injections of brandy and quinine, enemata of beef essence, and quinine, brandy and champagne internally as much as the stomach would bear. Waves of elevation and depression of vitality followed each other until 10 p. m. of the 13th, a little over five days after the operation, when she expired.

A post mortem examination was made at 2:30 p. m., Nov. 14th.

The cadaver showed great emaciation and putrescence when the sutures closing the wound were divided. It was ascertained that adhesion had not taken place, and there was no sign of plastic effusion anywhere. The abdominal cavity was freely opened by a large crucial incision. The peritoneal membrane was of a dark livid color, and the sub-peritoneal connective tissue was everywhere occupied by a reticulation of large and small veins. The peritoneal cavity contained about two pints of sero-purulent fluid, and the intestines were collapsed and entirely empty. The placenta was found, as before stated, attached to the right side of the bladder, fundus uteri and pelvis. One margin extended about two inches above the iliopectineal line, and the other about the same distance below it. No trace of the right ovary or Fallopian tube could be found. The placenta was quite solid in structure, and firmly implanted upon the place of attachment, and could not be separated except by dissection. The line of attachment could be easily traced, however, and seemed to be

constituted by very dense connective tissue. When separated, it was found to be about one inch and three quarters thick, and four inches in diameter. The fœtal surface was surmounted by a distinct pouch of membranes, that could be lifted up, and which, by the finger introduced in the center, could be explored to the margin of the placenta in its whole circumference. A very short piece of the cord was still attached to the center of the placenta, within the pouch of membranes just described. Upon making an incision into the placenta, numerous minute very red lines, indicating the course of the small arteries, that once constituted the tufts of fœtal vessels, were visible to the naked eye. The bulk of the placenta was transformed into a dense whitish substance, so firm as to require considerable force to break it up.

As before stated, the fœtus had the appearance of being well preserved. The extremities were found to be well formed, in shape and consistence, resembling those of a fœtus expelled but a few hours after its death. The abdomen, chest and head were in no way unusual in appearance. The whole head, body and extremities were covered with the membranes, as with a closely-fitting veil. The membranes adhered to the surface with so much tenacity as to require considerable force to separate them from it. Through these, only the shape of the nose, eyebrows, mouth and chin could be seen. The fingers and toes were covered as with mittens and stockings. The membranes covering the arms and legs surrounded them separately, and did not bind the legs together or pinion the arms to the chest, which seems a singular circumstance. When the membranes were removed from the face and scalp, the features were all salient and distinct, and the hair quite abundant. When the feet and hands were stripped of their covering, the fingers and toes were seen to have been well preserved by their incasement. The skin, too, looked fresh and sound.

Judging from the history of this case, there can be no doubt, I think, that thirty months had transpired from the time of conception, when the operation for its removal was performed. There is also good reason to believe that the fœtus had been dead twenty-two months.

A REPORT OF FIFTEEN CASES OF TRACHEOTOMY IN DIPHTHERITIC CROUP, SIX OF THEM SUCCESSFUL.

By R. G. Bogue, M. D., Surgeon to Cook County Hospital.

(Read before the Chicago Medical Society.)

The following cases are reported, not only for the general interest in themselves, but from the special interest which pertains to the subject; and because I believe that the profession needs more specific information upon the subject of tracheotomy for croup, and more encouragement to resort to the operation.

I am satisfied that there is a general want in the profession of a correct understanding of the disease—croup—and of what may and what may not be expected from medicine and the powers of nature to afford relief. Medical men do not, as a rule, appreciate the benefits to be derived from tracheotomy when employed as a remedial measure at the appropriate time, instead of as a "last resort," as is too generally taught.

As long as it is regarded a "last resort," after prolonged and fruitless trial of the usual remedies to relieve the larynx, continued until the child is about to die, there will be but little to hope for from the operation. But when it comes to be understood that medicines alone will not relieve the larynx in time to save the life of the patient, after respiration is embarrassed to a certain extent (exception being made of rare cases), and that the operation, as a rule, does not add gravity to the case, then very much may be expected from tracheotomy. Then, instead of one recovery in from five to ten cases, we believe there will be from fifty to seventy per cent. of successes, if the operation is resorted to reasonably early, and the cases carefully attended afterward. Cases of this sort invariably require a great deal of intelligent attention, especially for the first few days, and he who expects good results must be ready to devote himself to his little patients. If the study of the subjoined cases lead to fuller investigation of the subject, and assistance be derived from the few hints given as to the care of such patients, who thus may be given the benefit of

an early, instead of a late operation, or none at all, the object of this paper will have been accomplished. We would refer to Trousseau's article on the subject, in his "Lectures on Clinical Medicine," and to Cohen's valuable little book on "Croup in Its Relations to Tracheotomy," for full details respecting the disease, the operation and the care and after-treatment of this class of patients.

CASE I.—Feb. 21st, 1874. Frankie Baxter, age 4 years. A healthy, well-nourished boy; coughed hoarsely on the 19th, but had no trouble during the night; 20th, coughed hoarsely, and breathing began to be difficult; these symptoms rapidly increased in intensity. About 5 o'clock, Dr. W. H. Byford saw him, directing the usual relaxing remedies, which produced nausea and even vomiting, but no relief to the respiration. At 6:30 I saw him with Dr. B. The respiration was then quite difficult, cough harsh and dry; the remedies were continued, and a solution of glycerine inhaled by means of the steam atomizer. We met again about 10 o'clock. The remedies had been continued faithfully, but without relief; the respiration had steadily become more difficult; both inspiration and expiration laborious; supra and infra-sternal spaces retracted markedly at each effort of inspiration. It seemed as though there was escape only by way of tracheotomy, as there had been steadily increasing embarrassment of respiration from the first, which had not been influenced in the least for the better by the remedies, and now it seemed impossible for the boy to live but a few hours if the obstruction continued to increase as it had during the several hours preceding. There was some cough and occasional spasm of the larynx, as at times there would be intervals of greater difficulty of respiration. About half-past 12, Dr. H. A. Johnson saw the patient with us, concurring in the opinion that the little boy could live but a few hours, unless relieved. He advised the operation without delay. Chloroform was given, and, with the assistance of Drs. Johnson and Byford, I performed tracheotomy, and introduced a tube. The patient breathed with perfect ease through the tube, and reacted from the anæsthetic readily. There was a good deal of cough and discharge through the tube of a tenacious mucus, which necessitated its frequent cleaning. The temperature of the room was

kept at from 75° to 80° all of the time, for nearly two weeks, and the air kept moist by water boiling over the gas. For several days a solution of glycerine and chlorate of potass, in spray from the atomizer, was breathed almost constantly, and at frequent intervals afterward. For several days the cough was severe, and the discharge of mucus was very abundant, but this diminished gradually. The boy was fed milk, beef tea, coffee or tea with milk, as he preferred, and solid food as soon as he wanted it. The obstruction in the larynx continued for about one week, then gradually disappeared, so that at the end of the second week breathing through the larynx was quite free, and the tube removed the sixteenth day. The opening in the neck closed in a few days, the bronchitis soon disappeared, and there was no return of difficult breathing.

CASE II.—Josie Moses, aged 4 years, a patient of Dr. Adolphus; sick about three weeks with diphtheria. The exudation and ulceration had been quite extensive, and the boy's strength reduced. I saw him about 11:30 p. m., on the 26th of March, 1874, on account of laryngeal complication, which began about twenty-four hours before, and had steadily increased in severity. When I saw him, the respiration was very imperfect and accomplished only by great effort; inspiration and expiration equally noisy and labored. The supra- and infra-sternal spaces thoroughly retracted during every effort at inspiration. It was very evident that the little boy could live but a few hours, if not relieved. The usual remedies having been judiciously used without benefit, it was decided to perform tracheotomy without delay. Everything was made ready, chloroform given, and, with the assistance of Drs. Adolphus, Hotz and Shaffer, I opened the trachea and introduced a tube about 1 a. m., 27th. After the discharge of a little bloody mucus through the tube, the child breathed very quietly, and reacted from the anæsthetic. The atmosphere of the room was raised to about 75°, and made moist by steam from boiling water. Also from the steam atomizer there was inhaled a solution of glycerine and chlorate of potassa. From the severity and extent of the diphtheritic disease of the fauces and at the top of the glottis, and consequent paralysis of the muscles of the larynx, œdema of the glottis and deformity of the epiglottis, respiration

through the larynx was greatly delayed, so that the tube was not removed until the end of four months. After the introduction of the tube there was no more difficulty in breathing while carried on through the tube, but there was a tedious convalescence from the sickness. The boy, however, thoroughly recovered, the opening in the neck closing a short time after the removal of the tube.

CASE III.—Brice Miller, aged 5 years, had been sick about one week with diphtheria. He was a patient of Dr. Hunt. I was called to see him at 4.30 a. m., Dec. 15, 1874, and found Dr. Freer with the little boy, Dr. Hunt being detained elsewhere. Laryngeal complication began some 24 or 36 hours before. When I came, the little patient was lying upon his back upon the bed, wholly unconscious, and merely gasping, perfectly flaccid. With the imperfect attempt at respiration, there was the harsh whistling sound in the larynx and depression of the sternal spaces. The boy seemed just about to die; but I prepared a tube and immediately opened the trachea, and introduced it with the assistance of Dr. Freer. The child was so insensible, that he made no movement during the operation. Respiration very soon became pretty free, but presently there was evidence of obstruction in the tube, which was not overcome by passing through it a probe armed with cotton. The tubes were removed, when there appeared in the wound a large portion of membrane; this, with several small pieces, was removed, the tube replaced, when respiration became easy and efficient, and the little boy saved from his imminently dangerous condition. He soon made signs for some water, which he drank, also some milk. The temperature of the room was raised to 75°, and the air made moist by steam from boiling water. The operation was made about 5 a. m. All of that day and evening, up to 11 p. m., when I saw him, he had been entirely comfortable, taking fluid food freely, and breathing with perfect ease, and there had been discharged so much false membrane, that I felt quite easy about the case. Not thinking there was danger of acute obstruction, I left him for the night, with the direction that if the breathing became at all interfered with, to remove the inner tube and send for me. About 4.30 a. m., his friends noticed that he was not breathing quite as easily, and did as I had directed. I came very soon

after 5 a. m., and found the boy dead. I removed the tube and passed a probe down the trachea, but felt no obstruction. It excited no movement, and there was no membrane in the tube. The boy had drunk a glass of milk, and sat on the chamber to urinate; very soon afterward, the breathing suddenly ceased. Up to this time there had been but very little interference with respiration. Did death occur from a large piece of membrane becoming loose and obstructing the bronchia, or was it from syncope? We believe the latter to have been the cause of the fatal result.

CASE IV.—February 10th, 1876; Emma Kerga, aged 3 years, a patient of Drs. Church and Bert, had been ill of diphtheria somewhat over a week. I saw her on account of laryngeal complication, which first showed itself some 24 hours before, and had steadily increased until the breathing had become very difficult. When I saw her, there was very little air passing the point of obstruction in the larynx, and that only by great effort. The sternal spaces were drawn inward very markedly at every effort at inspiration. I advised an operation, and with the assistance of Drs. Church and Bert, opened the trachea, and introduced a tube. Chloroform was given. Breathing through the tube was quite easy; some small pieces of membrane were discharged; the temperature was kept at about 75°, and the air moistened by boiling water. Everything progressed well until about 24 hours after the operation, when the respiration became more hurried and the pulse faster. I saw the patient about 4½ p. m. The breathing was hurried, shallow and noisy from accumulation in the trachea. The child had lost strength since the day before. I removed the tubes; excited cough by passing a probe down the trachea; a few pieces of membrane and some mucus were discharged. The tube was replaced, but the respiration became more hurried, the pulse feebler, and the child died about 32 hours after the operation.

This patient died from what would be called extension of the disease into the deeper part of the bronchial passages, but the event was probably precipitated by an extensive pneumonic congestion or infiltration of the lung, which had begun before the operation.

CASE V.—April 29th, 1876; Seissman, aged 2½ years; a patient of Dr. Wadsworth; ill of diphtheria for several days; had extensive exudation in fauces and laryngeal complication, said by the parents to have commenced on the 28th. I saw the child about 9 a. m. The breathing was very inefficient and performed with a great deal of effort. I advised an operation, although it seemed as though it promised but little, in fact but temporary relief. A little chloroform was given, and with the assistance of Dr. Wadsworth, I opened the trachea and introduced a tube. When the trachea was first opened, there was expelled a quantity of thick muco-pus, which had accumulated in the trachea and larynx. Respiration was easier and without obstruction, but remained hurried. The child took nourishment, but gradually failed, and died about 24 hours after the operation—I believe from a commencing pneumonia.

CASE VI.—August 27, 1876; Larrey McMullen, age 5½ years, a patient of Dr. Mary Bennett, who saw him in the early morn of Aug. 27th.

I saw him about 7 a. m. The mother said he was taken with the hoarseness the evening before. The breathing was quite difficult—but not especially distressing—there was some cough, which was harsh and dry. It was ordered that he be given 1-10 gr. turpeth mineral every hour, and that he continually inhale from the steam atomizer a solution of glycerine. I saw him again about 1 p. m., breathing a little more labored. Had taken the medicine, but refused to inhale the vapor, continued the turpeth mineral, and gave half a teaspoonful of glycerine every hour.

I saw him again at 5 p. m., when I met Dr. Harcourt, for whom the parents had sent. The medicine had produced some vomiting. The respiration had now become quite difficult, the obstruction in the larynx having steadily increased during the 10 hours that I had observed the case. The sternal spaces were depressed markedly at every effort of respiration. And although the boy had not been really so sick but that he played with the other children until bed time the evening before, both tonsils and a large part of the pharynx, were covered with a dense diphtheritic deposit. There seemed to be no reasonable expectation

that the obstruction could clear up in time to save the child. I advised an operation, which was consented to, and about 6 p. m., with the assistance of Drs. Wadsworth and Harcourt, I opened the trachea, and introduced a tube. Chloroform was given. Respiration was at once free and easy, the boy slept for an hour or two quietly. He utterly refused to take medicine, or food even, for fear that there was medicine in it. He would take glycerine, however, and was given half a teaspoonful every half hour, and allowed to take anything he would. After the second day he took a sugar coated pill of quinine, one grain, three times a day for four or five days. He would not inhale vapor, nor was it practicable to keep the room at an even and elevated temperature. The surroundings of the patient were squalid, and the air of the apartment unwholesome. Yet the boy recovered steadily without an unpleasant symptom, the diphtheritic throat getting well rapidly, and the larynx clearing up so that the tube was removed on the eleventh day. The night following the removal of the tube, there was some embarrassment of respiration. I saw him, but did not deem it necessary to replace the tube, as the derangement was due to moderate spasm. I gave a dose of paregoric, and he had no further trouble. In this case we had extensive diphtheritic exudation, and early involvement of the larynx threatening early death from obstruction, with no severe general disturbance, the child not feeling sick enough any of the time to keep him in bed. There was very little tracheal, and really no bronchial, inflammation. There was no difficulty at all in managing the tubes. This case illustrates how satisfactorily a bad case may be thus treated, and how little trouble it may occasion, even under the most unpromising circumstances.

CASE VII.—Nov. 12th, 1876. Rossene, aged 2 years, 2 months, a patient of Dr. White; ill of diphtheria for several days. I was called about midnight by Dr. Jno. Bartlett, who had been called in the emergency. There was severe laryngeal complication which had existed for two days. It was apparent that the child could live but a few hours without relief. I advised the operation, and with the assistance of Drs. Bartlett and Simpson, I opened the trachea and introduced a tube—chloroform was given. When the trachea was opened there welled up into the

wound about two teaspoonfuls of muco-pus. There was also discharged through the tube by cough some bloody muco-pus. The child breathed easily but too rapidly to be a promising case. The discharge of muco-pus from the trachea through the wound, and rapid breathing after introduction of the tube and first clearing of the same, are unpromising evidences. The temperature was raised to about 75° and the air made moist by steam from boiling water, also glycerine solution was inhaled from the steam atomizer, and the child fed at frequent intervals. The patient was quiet but the breathing became more and more rapid and patient more exhausted. Death ensued about eighteen hours after the operation. The cause, in my opinion, was an inflammatory change which had begun previous to the operation, in a large portion of lung.

CASE VIII.—On the morning of February 5th, 1877, I was called to see Charley Kennedy, aged 3½ years, a patient of Dr. H. M. Lyman. He had been sick of diphtheria for about a week; for several days had been somewhat hoarse, and markedly more so at night. During the past night respiration had been continuously difficult, and no easier during the morning, as had been the case on other days. The evidences of laryngeal obstruction were well marked. Depression of all the soft spaces * about the chest. Remedies for relief had been used without benefit. I advised tracheotomy, and at 1 P. M., with the assistance of Drs. Lyman and Parkes, I opened the trachea and introudced a tube, using a small quantity of chloroform. A quantity of muco-pus, with shreds of membrane, were discharged as soon as the trachea was opened. The breathing remained hurried and pulse quick after the tube was introduced. He slept for a time after the operation. The accumulation of mucus and membrane in the tube and trachea necessitated its frequent clearing and the introduction of a cotton swab, into the trachea to clear it. Aside from this annoyance, the breathing was comparatively easy, yet the patient steadily failed, although slowly, for two days, dying the

* The terms sternal, soft and interspaces are used to indicate the supra- and infra-sternal, supra-clavicular and inter-costal spaces; also the abdominal wall at the border of the ribs.

fourth day of asthenia and accumulation of dry mucus and membrane in the trachea below the tube.

CASE IX.—Evening of April 1st, 1877. Saw Maude Stanley, aged 3 years, with Drs. Bartlett and Daniels. She had been ill of diphtheria for several days; evidences of the larynx becoming involved since morning. The respiration was difficult, but not so urgent as to demand an operation. It was decided to have her breathe steam from slaking lime, which was carried out faithfully for several hours, but the respiration became steadily more difficult, so that by early morning it was evident that if she was to be saved, it must be by tracheotomy. About 5 a. m. of the 2d, with the assistance of Drs. Bartlett and Daniels, I opened the trachea, using chloroform as an anæsthetic; after the tube was introduced respiration was easy; the tube had to be cleaned often of mucus and shreds of membrane. Several times during the first few days the respiration became very much embarrassed by accumulation of shreds of membrane and dry mucus at the lower end of the tube and below. It was expelled by being moistened with glycerine by means of the swab. Dr. Daniels was living in the same house, and was at hand to render timely and efficient assistance in the care of the case. The child utterly refused to take food of any kind. Injections of beef tea were used, and continued for many days, every four or five hours, and the abdomen and chest bathed with cod liver oil twice a day. The temperature of the room was kept from 75° to 80°, and moist, by means of boiling water and a steam atomizer. On the fifth day the wound had become so much ulcerated that it was necessary to remove the tube, to be enabled to make applications to it. The opening had become so large, and the edges so infiltrated, that it remained patulous until the larynx became clear enough for respiration, which was not the case until after two full weeks. There was applied to the wound a solution of carbolic acid (grs. 8 to the ounce) glycerine and water (one part of the former to three of the latter), by means of the atomizer, the spray playing upon the wound for two or three minutes every hour for several days. There was but little increase of ulceration after the removal of the tube, and it soon began to improve.

The history of the case in brief is, that after about 10 or 12

days she began to take food, the wound gradually closed, the larynx cleared so that at about the end of the second week air could pass, and she began to whisper audibly. Her condition steadily improved in every respect, and after a rather prolonged convalescence, she entirely recovered.

CASE X.—Saw Willie Kerfoot, aged 10 years, with Dr. Jno. Bartlett, June 21st. He was taken sick on the 17th with diphtheria, and seemed to be profoundly affected. The tonsils were very much enlarged, quite filling the faucial opening. They were covered completely with a thick diphtheritic membrane, which extended upon the contiguous soft tissues, also into the posterior nares. The breathing was somewhat embarrassed from the occluded condition of the faucial opening. 22d, patient had pretty steadily failed. The nasal passages were more generally involved, and there was slight laryngeal invasion, which become more and more pronounced toward evening. Early in the evening, Drs. Byford and Mannheimer saw the patient, with Dr. Bartlett and myself. It was thought from the general condition, that tracheotomy offered so little, if anything, in the way of relief, that it was not advised, the feeling being that while it was not unwarrantable, it was not worth while to urge it. It seemed that the little boy would live but an hour or so. About three hours later, Dr. H. A. Johnson saw the patient, and, while tracheotomy promised so little, he very strongly urged the operation on the ground that it would be a relief to respiration for the rest of the time the boy might live, even if it proved to be of no other benefit; that the patient was no worse off with, than without it, and that it was the only thing which did offer any chance of relief or escape. About 1:30 a. m., 23d, with the assistance of Drs. Bartlett and Johnson, I opened the trachea without anæsthetic. A large quantity of muco-pus was discharged through the wound as soon as the trachea was opened. A tube was introduced, and the breathing became comparatively easy, but hurried. The pulse remained feeble and very rapid. The patient steadily sank, and died of exhaustion or asthenia about ten hours after the operation.

In this case tracheotomy prolonged life a few hours, and rendered the termination less distressing. It was a case of malig-

nant diphtheria, and on account of the profound diphtheritic infection, tracheotomy promised but very little if any benefit. Trousseau advises against operating in malignant cases. Early amputation of chronically enlarged tonsils we believe should be resorted to when they are attacked by diphtheria, and from swelling and coating with false membrane, they encroach sufficiently upon the faucial opening to interfere with respiration, especially if the nasal cavities are also implicated. In a similar case I would advise early amputation of the enlarged tonsils. In this case certainly, the very large tonsils becoming swollen and covered by thick membrane, and the nasal cavities being attacked also, there was embarrassment of respiration before the larynx became involved.

CASE XI.—Aug. 27th, 1877. I saw with Dr. Jno. Bartlett, about 10 p. m., Edward Cross, aged 7 years, ill of diphtheria about ten days. He commenced breathing hoarsely four days before, and had been better and worse up to date, when he had become steadily worse. Respiration was labored and noisy—supra- and infra-sternal and supra-clavicular, and intercostal spaces depressed markedly during every effort of inspiration. There was short ringing cough, expectoration of mucus tinged with blood, and diphtheritic deposit on and behind the tonsils. The little boy was well nourished, and not markedly reduced by the disease. The usual remedies had been resorted to, the laryngeal obstruction had, during the last twelve hours, become markedly more and more pronounced, so much so, that it was evident that unless it could be overcome, death would result in a few hours. Emetics had been used without relief. Tracheotomy was advised, and consented to by the parents, and with the assistance of Drs. Bartlett and Hooper, I opened the trachea and introduced a tube, using chloroform for an anæsthetic. When the trachea was opened, there was ejected some shreds of membrane, together with a little blood and mucus. He slept quietly, and breathed very easily after the operation. During the 28th he was very comfortable, being troubled but little with cough or clogging of the tube with mucus. Several times during the day and night pieces of membrane were discharged through the tube. He took a reasonable amount of milk and broth for food. A fine papular eruption

showed itself on the forehead and in the edge of the hair. 29th, patient had not slept well during the night; did not feel quite as comfortable; cough rather more severe, some membrane, mucus and a little blood discharged through the tube; he had taken his food well; the neck and tissues about the angles of the jaw were swollen a little more; the eruption had extended to the face. 30th, morning—slept fairly during the night, and has taken food well, but is less comfortable; face and neck more swollen; eruption has extended over all of the face, ears, neck, and somewhat on chest and back; coughs and expectorates less; wound a little more tender; complains of soreness behind the sternum. Evening—Has been more comfortable the latter part of the day; had a long sleep; breathes very quietly; but little mucus being discharged; eruption gradually extending. 31st, morning—He slept quietly most of the night, having been annoyed but little by cough; face and neck less swollen; eruption fading from face; breathing very easy and free: he is to-day much more comfortable and really better. Sept. 1st, continues better. 2d, still better, eruption fading. 3d, better. 4th, morning, the tube became foul with mucus and pus adhering to the neck plate, tapes and tissues about the wound; it was removed and a clean one introduced—a Fuller bi-valve. Everything went on well until the night of the 7th, when about 11 o'clock the inner tube was removed for cleansing, and on an attempt at re-introduction there was found to be some obstruction, which caused some impediment to respiration. I saw the patient soon after, when I found that the granulations, which were very abundant about the wound, had fallen into the openings in the tube, filling it so that the inner one could not be replaced. I removed the tube and introduced one without any opening; respiration was resumed as usual. After several days this tube was changed for one with a fenestrum. One day, when the inner tube had been removed for cleaning it, could not be reinserted, and on inspection the tube was found nearly filled with a mass of granulations which had fallen into the fenestrum. The tube was forcibly removed, bringing away with it the cluster of granulations. After this the granulations were cauterized with nitrate of silver or carbolic acid, daily or every other day, and the repressed breathing and voice steadily became more and

more clear, when, on the 10th October, the tube was removed and the wound allowed to close. This was fully accomplished at the end of forty-eight hours.

CASE XII.—October 9th, 1877, at 4.30 p. m., I saw with Dr. Matthei, Willie McCoy, aged 7 years and 2 months, who had been ill of what seemed to be an ordinary sore throat, with some hoarseness for three or four days. He had always been subject to attacks of spasmodic croup. This had persisted, and the breathing steadily became more embarrassed. Dr. M. was called this morning, and from the means used, the breathing had been quiet during the day. The fauces were somewhat tumid and reddened, but no patches of membrane were detected; respiration was embarrassed, but not urgently so; the intercostal spaces of the thorax were moderately depressed. A continuance of the remedies was advised, with the addition of about 8 gr. bromide of potassium, a poultice to the neck, and the use of the steam atomizer. 10th, at 9 a. m., I saw the patient again. The breathing had become steadily more and more difficult, so that he was showing decided evidences of laryngeal obstruction, which would prove fatal in course of a few hours if left to itself. All of the thoracic spaces were markedly depressed, and the surface had begun to be cyanosed. Tracheotomy was advised, and consented to by the parents. Chloroform was given, and, with the aid of Dr. M., I opened the trachea, about 10 a. m. The patient became a good deal depressed during the operation, respiration being very feeble before its completion. A large piece of membrane, with mucus, was expelled through the wound. When the tube was introduced some bloody mucus was also discharged, and the respiration became very good. The patient drank a reasonable quantity of milk, expectorated fairly, rested easily, and seemed to be doing as well as could be expected until the evening of the 12th. The neck about the wound had become inflamed and swollen; respiration became difficult; no expectoration. At about 11 p. m., when I saw him, there was evident obstruction below the tube, it being clear; a swab saturated with glycerine and passed down the trachea revealed no obstruction, yet there was persistent difficulty in breathing. I gave a teaspoonful of paregoric, oiled the inflamed neck, and caused him to inhale from the

atomizer steam from lime-water, glycerine and a little carbolic acid. The breathing was a little easier at times, but became more labored and difficult during the latter part of the night and the morning of the 13th, when it seemed that the boy could live but a short time. He was quite cyanosed, and struggled for breath, tossing about the bed, or clinging to the attendants wildly for relief. So he continued during the forenoon and till about 2 p. m., at times apparently ready to die; but about this time there was expelled a quantity of membrane, and some plugs of hardened mucus, which gave him great relief. He was much exhausted, but now slept and rested. In the evening the breathing became somewhat difficult. I removed the tubes and applied glycerine to the trachea by means of a catheter, and persistently kept up the inhalation of a solution of chlorate of potassa and glycerine in water, which soon caused the expulsion or discharge of bits of dried mucus and some pieces of membrane, which rendered the breathing comparatively easy. The wound remained patulous, so the tube was left out. The wound and inflamed neck were lubricated frequently with cod-liver oil—steam to be inhaled freely, an oiled silk jacket put around the chest, a poultice over the sternum, and an injection of beef tea and two grains of quinine to be repeated every three or four hours. During the latter part of the night, and all of the 14th, and the following night, he was pretty comfortable—occasionally a piece of membrane or hardened mucus would be expelled, and there was expelled from the tube, by coughing, a fair amount of muco-pus. During the morning of the 15th the breathing became somewhat difficult. When I saw him, the opening in the trachea had become contracted sufficiently to offer a little impediment to respiration; the inflammation had subsided markedly. I cleared the edges of the wound of adherent crusts, and introduced some glycerine into the trachea. There was expelled quite a quantity of secretion. I then introduced a Fuller bivalve tube. He now breathed freely, drank some tea and milk, some of which came out through the tube. I gave four drops of deod. tincture of opium, and continued the other treatment. It had not been carried out very well during the night. He breathed reasonably easy during the day, slept somewhat, but had swallowed very little food. The beef tea injections had been

given faithfully. At 5 p. m. I removed the tube. There was free discharge of muco-pus from the trachea. He breathed somewhat through the larynx, and could speak in a very audible whisper. Visited him at 11 p. m.; found him very comfortable. When asleep the breathing was labored, yet the chest filled well. As a precaution, I introduced a tube to be left in during the night, and ordered a continuation of the treatment. 16th, 8 a. m, patient slept and rested very well during the night, looking brighter and happier than at any time before; says he feels better; breathes very easily. Tube was removed about 4 a. m. 9 p. m, tube has been out all day; has breathed without difficulty. There has been quite abundant secretion during the afternoon and evening; added a little carbolic acid and tincture of myrrh to the inhalation. 17th, morning, patient has had a very comfortable night, and feels better, is very weak, but begins to take a little more food; fluids occasionally pass by way of the wound; inflammation of neck and wound disappearing. Evening, has had a very comfortable day. 18th, morning, every way comfortable; also at evening. 19th, better; takes more food. 20th, respiration perfectly easy; more air passes the larynx; wound cleaning off and patulous. 22d, 3:30 p. m, has had quite a high fever since about 9 a. m., pulse about 130, vomited once; ordered grs. v. sulphite of soda and one drop of tincture of aconite root every three or four hours. 23d, 9:30, fever subsided, slept well during the night; has had three loose passages this morning, breathes easily, mostly through the larynx. Continued the medicine of yesterday every eight hours, and ordereed 1 gr. quinine every eight hours. 5 p. m, has been pretty comfortable during the day. 24th, slept fairly through the night, complains of pain in the limbs; ordered 4 drops of tincture of iron and 2 drops of tincture nux vomica every 6 hours. 25th, has complained of a good deal of pain in his limbs and about the chest; slept only fairly, breathing somewhat hurried, right side of chest seems slightly dull on percussion, pulse about 120; takes milk and coffee. I continued the iron mixture, and ordered a poultice to the right side of the chest. 5 p. m., has been uncomfortable all day, pain in legs, breathing labored and rapid, pulse 120 and a little irregular; has taken but a mod-

erate quantity of food during the day. Ordered the elixir of cinchona 3i, and quinia grs. i, every 4 hours; also 15 grs. of bromide of sodium and 3 drops of tr. opii deod., twice during the night. 26th, has failed perceptibly since last evening. Died about noon of pneumonia, the 16th day after the operation, and 10 days after the tube was removed, having become quite anemic and emaciated. He had neuralgic pains, albuminous urine, loathing for food, and paralysis, or a want of sensitiveness, of the glottis, (fluids being allowed to enter the larynx,) showing the general and secondary manifestations of diphtheria. This case is of unusual interest, for from the evidences at first, and from the amount of membrane (for there was a great deal discharged at the time of operation and afterward), it may have been called a case of membranous croup, as distinguished from diphtheritic croup. But we believe it, without doubt, to have been a case of diphtheria. In this case the operation was a success, for it rescued the patient from dying of laryingeal obstruction, death not occurring until several days after the larynx had become clear.

While the operation in this case should be included in the list of successes, it having accomplished its object as a remedial measure, we class it with those marked unsuccessful, because the patient did not recover.

CASE XIII.—Oct. 12th, at 4 p. m. I was called, with Dr. D. S. Root, to see Baby Wasserman—a patient aged 2 years and 2 months. He commenced breathing hoarsely, on the morning of the 11th. The hoarseness had steadily increased and breathing become more and more difficult, until now there is only a faint whisper and the soft spaces about the chest are all markedly depressed with every attempt at inspiration, the front of the chest also being markedly depressed during the act; pulse very rapid and the surface becoming cyanosed. Tracheotomy was advised, and with the assistance of Drs. Root and Fisher I opened the trachea at the superior point, after giving a little ether. The isthmus of the thyroid gland was very large; it was separated and held forcibly downward to make the tracheal opening and to introduce the tube. During the latter part of the operation the patient became very low, quite thoroughly cyanosed and very nearly ceased to breathe. Some delay was experienced in introducing the

tube, but it was finally accomplished easily by first passing into the trachea a soft catheter and slipping the tube over it. As soon as the tube entered the trachea the catheter was withdrawn. There was immediately discharged some blood and mucus. After this the child breathed with ease and slept quietly, it was put to bed and a hot bottle placed near the feet. He rested very well during the night and was quite comfortable the next day, the 13th, yet was a little feverish and breathed rather rapidly. During the night following there was more cough and discharge of thin muco-pus. He had a slight chill on the morning of the 14th. Breathing hurried, cough annoying, neck swollen, thyroid gland inflamed, and there was diarrhœa. It seemed evident that pneumonia or bronchitis had developed. The tube was changed, chest rubbed with camphorated oil and an oiled silk jacket put on—during the day the breathing became more hurried, pulse faster, and strength failed. The child died about 4:30 p. m., of broncho-pneumonia.

CASE XIV.—Monday, October 22d, 8 p. m., I was called to see Mary Donehue, aged three years 11 months, who had been ill since the evening before. During Saturday night she had a slight attack of difficult breathing, but it had passed away before morning. Coughed a little, and was slightly hoarse during the day, but at evening she became quite hoarse, and breathed with some difficulty during the night. In the morning, Dr. Constance saw her, and used the ordinary relaxing remedies. The breathing became steadily more difficult, and she could only whisper. In the evening, Dr. F. L. Wadsworth saw her, who called me with reference to tracheotomy.

The child was thoroughly exhausted from the prolonged struggle to breathe. All of the interspaces of the chest were markedly depressed at every effort of inspiration, which was very harsh and noisy; could only whisper, coughed occasionally, and was wet with copious perspiration.

I advised tracheotomy, and with the assistance of Drs. Wadsworth and Constance, opened the trachea and introduced a tube, giving chloroform for an anæsthetic. There was no delay during the operation, and but trifling hemorrhage. A small quantity of mucus was coughed up when the trachea was first opened. She

was to be kept warm and the air moist by steam. She slept and breathed with perfect comfort directly after the operation, and remained very comfortable during the night. 23d, 8:15 a. m., found patient comfortable and breathing easily; but little mucus had been coughed up during the night; was a little feverish, and pulse quite rapid. Ordered 2½ grains sulphite of soda and half a drop of tincture aconite every 2 hours and a half.

8 p. m. She has passed the day quite comfortably; had one rather hard spell of coughing; has drunk milk, and slept some; medicines continued; the steam atomizer to be used half of the time during the night, at half hour intervals.

24th, morning.—Has slept fairly and been quite comfortable. Evening.—Has seemed not quite as comfortable during the afternoon; breathes easily; raises more mucus; has a bright red lichenoid eruption over most of the body and limbs since yesterday morning.

25th.—Passed a good night, and is very comfortable. Ordered 3 drops tincture ferri chlor. every 4 hours. Evening.—Has been very comfortable all of the day.

26th.—Slept very well most of the night; is in every way comfortable this morning. Evening.—Comfortable all day.

27th.—Very comfortable; no fever; coughs but little; takes more food.

From this date to November 12th, she continued well, the larynx clearing up, so that the voice and breathing became easy and natural, when the tube was permanently removed. The tube could have been removed a few days earlier with probable safety, but on trial the respiration seemed a little rough, and as the tube was a source of no annoyance to the neck and trachea, it was allowed to remain.

CASE XV.—I was called by Dr. H. M. Lyman, Dec. 5th, to see George Healy, aged 7 years, who had been sick of pharyngeal diphtheria for several days. The larynx became implicated on the 4th, and the difficulty in breathing had steadily increased since then. When I saw him the evidences of laryngeal obstruction were well marked by labored effort in respiration and the sinking in of the interspaces of the chest; the pulse was rapid and feeble, the surface cyanosed. Although the

patient was in a condition unpromising for operation, I advised tracheotomy; and with the assistance of Drs. Lyman and Hempstead opened the trachea, and after removal of some shreds of loose membrane introduced a tube, using a very little coloroform. Respiration was perfectly easy through the tube; the blueness of the lips soon passed away, but there was a good deal of depression, the pulse was not felt at the right wrist, and but feebly at the left. He was put to bed and hot irons placed about the limbs. He slept quietly. In about half an hour the pulse had become perceptibly stronger and the surface warm. A little bloody mucus had been discharged through the tube. The temperature was raised to 75° and the air made moist by steam from an atomizer. He slept for a couple of hours; reaction became well established, and while the breathing was easy it remained too rapid, as well as the pulse. He took a little food and remained very comfortable until the latter part of the night, when the breathing became noisy and labored, which difficulty steadily increased, the patient dying about 5 p. m. of the 6th, of suffocation, from what seemed to be accumulation of membrane and dry mucus in the trachea or bronchi, together with congestion of the lungs. This case illustrates well what is likely to follow the operation where it is delayed to the third stage of the disease. There will be very good reaction and very hopeful promise for 12 to 24 hours; then death results from some lung complication that has had its origin in the injury which that organ has suffered from the prolonged struggle and congestion before the operation. It is always ominous to have the pulse and respiration continue rapid for some hours following tracheotomy, and hopeful if they become gradually slower.

Of these patients, the ages ranged from 2 to 10 years. The number of cases operated upon between

2	and	3	years	was	3.	Recovered,	0.
3	"	4	"	"	4.	"	2.
4	"	5	"	"	2.	"	2.
5	"	6	"	"	2.	"	1.
7	"	8	"	"	3.	"	1.
9	"	10	"	"	1.	"	0.
					15.		6.

The tube was worn in the cases of recovery 44, 21, 5, 16, 120 and 11 days, respectively. In the case in which the tube was worn 44 days, its removal was delayed by granulations at the tracheal border of the wound; and in the one in which it was worn 120 days, the delay was occasioned from paralysis of the larynx or glottis; and in the case where the tube was worn only 5 days, it was not removed because the larynx was clear at that time, but on account of ulceration of the edges of the wound, the sides of which were infiltrated so that the opening remained patulous until the breathing could be carried on through the larynx. It was not until after two full weeks that it had become thus clear. In case XII, the edges of the wound ulcerated, and became infiltrated with inflammatory exudation, so that it remained open for respiration for several days after the tube was removed, before the larynx became clear, which was the case several days before death. Those who did not recover, died in from 10 hours to 16 days, most of them within 48 hours.

From our experience in the above cases, we are led to the following conclusions:

1st.—That the so-called membranous croup, as we see it here, and diphtheritic croup, are all cases of the same disease; all are diphtheritic. In all of these cases, the children had been ill of pharyngeal diphtheria, or evidences of the disease showed themselves later, and in most of them diphtheria attacked other children of the family, except it be in cases I and XIV. None of the other children in these families were ill, I think; yet from the condition of the wound and general condition of case No. 1, I was satisfied that he was affected with diphtheria. In case XIV, the evidences were not so clear, but I believe it was of the same character, confined to the larynx. If not identical, they are so practically, as regards treatment, neither requiring treatment which is not applicable to the other. No antiphlogistics are useful for the one or the other. We believe that the essential difference is only in the place where the disease or membrane first locates itself. If in the pharynx, it it usually seen before the larynx becomes affected. If in the larynx, the swelling and deposit of membrane may in a very short time obstruct it sufficiently to destroy the patient even in a few hours. This can be

readily understood when we remember how much the tonsils may be swollen, and how much membrane is sometimes seen very soon after the child is taken ill, if it is looked for, and this, too, when the child does not appear to be very sick. If this condition were to be located at the glottis, it would compromise life early. In some cases, the disease is first located in the trachea, and membrane is formed there before the larynx becomes involved, for in some of the cases the larynx had been implicated but a short time before the operation. But when the trachea was opened, loose membrane was found there, and was expelled or removed with the forceps, and yet the larynx was blocked up with adherent membrane, which was not separated for several days.

2d.—That tracheotomy should be resorted to in all cases where death is threatened by suffocation from obstruction in the larynx, and as soon as the breathing has become insufficient to sustain the vital powers. This will be evident from the difficulty with which respiration is performed, from exhaustion from want of rest, from the severe muscular efforts to respire, the restlessness and the anxious expression. The degree of obstruction will be measured by the extent of labored movements of the chest and by the amount of depression of the inter-spaces of the chest on inspiration. If the obstruction has been quite acute, the respiratory efforts will be great, but if it has been developed gradually, they will be less laborious. Some preparation of opium or the bromides should be given to overcome whatever spasm may exist, steam inhaled—which may be medicated according to one's notions respecting the properties of various remedies in softening or dissolving membrane, or soothing the inflamed parts: heat and moisture should be applied to the front of the neck, and in some cases a prompt, but not depressing, emetic used. If these procure no relief, the operation is indicated. If there has been steadily increased difficulty in breathing for a variable time, until there is obstruction sufficient to prevent the entrance of enough air to the lungs to satisfy the demand, the operation ought to be made—and this too, before the patient is exhausted.

It should be resorted to during the so-called second stage of the disease; while there is yet a reasonable

amount of strength; at this time there is a great deal more to be hoped for from the operation. If it is delayed until the third stage, or until the pulse has become feeble and frequent or gone at the wrist, the surface cold and blue, there will have been prolonged congestion of the arterial side of the lungs and the right side of the heart; which, with the greater degree of exhaustion, will compromise the chances of success very much, and there will be more likelihood of a bronchitis or pneumonia being developed—which will pretty certainly prove fatal. In these cases there will usually be temporary improvement, but the lung complication which had already begun, will become estabtablished and carry off the patient.

3d.—That it is best, in the majority of cases, to use an anæsthetic. Respiration is usually rendered somewhat easier from whatever spasm of the larynx may exist, being controlled, the child also is saved from the pain and fright of the operation. Ether no doubt is the safer anæsthetic to use, and is to be preferred, although we have used chloroform in most of our cases.

4th.—That the operation should be made slowly and by carefully dissecting down upon the trachea, avoiding all vessels which can be seen and protected from division, and unless there is some urgent reason for opening the trachea before all bleeding has ceased, this should first be controlled. The trachea may be opened above or below the isthmus of the thyroid gland, whichever is most convenient. In some cases the gland will not be noticed during the operation, in others it will be a source of annoyance from its size, but it can be held out of the way with a hook or tenaculum.

5th.—That a tube should be used. It will keep the wound open better than any thing else, and cause as little irritation. It should be as large as the trachea will admit. The opening should be not less than about one-fourth of an inch, for the trachea of a child somewhat less than two years, will admit readily one of that size. It should be double, and may have a moveable neck plate, or not; there are advantages in both kinds; the same may be said of fenestra; it will be found best in one case to use a tube with fenestrum, and in another one without. The tube should be worn until the larynx has become clear enough to allow respir-

ation to be performed easily. This can be ascertained by corking the tube, and for this a tube with fenestrum is best. The tube may be removed for trial, to be replaced if respiration becomes difficult.

Should the wound ulcerate, the tube must be removed, if the wound will remain open, so as to allow easy breathing. It may be left out for a part or all of the day, or wholly, as the case will allow. Almost any stimulating application may be used for the wound, if it is unhealthy. If it is not, nothing need be done. The inner tube will have to be cleaned of mucus and other secretions sufficiently often to allow free passage of air; this may be at intervals of from ten minutes to an hour or more. It must not be left out for a longer time than suffices for washing and clearing, so as not to allow the outer tube to become obstructed, for if it does, when the inner tube is replaced, the accumulation will be carried into the trachea, or will adhere to the end of the inner tube; in either case it would be likely to give trouble by interfering with respiration.

6th.—That the temperature of the room should be not less than 75°, moist, and free from currents of air. The air should, for the first few days at least, be kept thoroughly saturated with steam from boiling water, or from the steam atomizer. The vapor may be medicated to suit the various fancies respecting the properties of medicaments. We have used mostly a solution of glycerine, about one-fifth or one-sixth part glycerine in plain water, a little chlorate of potass, or carbolic acid, may be added. And a loose woolen scarf should be kept about the neck, that the air may be respired through it. The object of the vapor is to secure a moist condition of the trachea and bronchi, to prevent the accumulation of dry mucus and shreds of membrane below the tube. The atomizer may be allowed to play directly upon the neck for a short time, at intervals, if it seems necessary to have additional moisture, but it will be too cold and wet to be kept thus, much of the time. It will not do to have only a semblance of moisture, the air must be kept saturated.

7th.—That the patient must be sustained by such food as is most acceptable or would seem most appropriate for each individual case. Occasionally there will be utter loathing of food, or

an absolute impossibility to induce the child to swallow it, as in case IX. It will then be necessary to resort to artificial means of feeding. Such remedies as may seem indicated should be given. The general and even local treatment of the disease should not be omitted after the operation. If there should be any indications of ensuing lung complication, the chest ought to be enveloped with a hot poultice, or a rubber or oiled silk jacket applied, the surface of the chest first irritated by a mustard paste or rubbed with kerosene or camphorated oil, and other appropriate remedies used. If at any time the patient is restless or wakeful, it had better be kept reasonably quiet by the use of some opiate or one of the bromides; and when the child can breathe through the larynx for a prolonged time without discomfort and can talk again, the tube may be removed. The edges of the wound will fall together and become adherent in from one to two days, requiring no dressing. If after the tube has been removed the respiration should become difficult, the tube must be replaced by forcibly dilating the opening, or even enlarging it by cutting, if that is necessary. There may be, during the first night after the removal of the tube, some difficulty in breathing from spasm of the larynx, which will usually be relieved by an anodyne, such as a full dose of paregoric. If it does not give trouble the first night, the patient is quite secure from this kind of annoyance.

In none of these recovered cases, has there been any impairment of the voice.

3 WASHINGTON PLACE, CHICAGO.

ON THE QUESTION OF THE INNOCUITY OF CERTAIN PHYSIOLOGICAL SECRETIONS IN SYPHILIS.

By James Nevins Hyde, M. D., Chicago.

1. *Ist Syphilis durch die Milch Uebertragbar?* [Is Syphilis transmissible through the milk?) R. Voss. (St. Petersburg. Med. Wochenschrift, No. 23, 1876.]
2. *Recherches sur la Question de l'innocuite du Lait provenant de Nourrices Syphilitiques.* [Examination of the question respecting the innocuity of the milk of syphilitic nurses.] Ernest Gallois, Paris, 1877.
3. *Sulla non Trasmissibilita della Sifilide per mezzo del Latte.* [On the non-transmissibility of syphilis by the medium of milk.] Tommaso De Amicis. (Annal. Clin. dello Osped. Incurab. An. II., Sept. and Oct., 1877, F. 5, p. 278.)
4. *Two Cases of Transmission of Syphilis Through the Male Element of Reproduction.* M. H. Jordan. (Am. Jour. of Obstet., Jan'y, 1878, p. 126.)
5. *Recherches sur la Non-inoculabilite Syphilitique du Sperme.* [Investigation of the question of the non-inoculability of the semen in syphilis.] H. Mireur. (Ann. de Dermatol et de Syphilig., T. 8, No. 6, p. 423.)
6. *Syphilis Communicated by Tattooing.* F. F. Maury and C. W. Dulles (Amer. Jour. of the Med. Sci., Jan'y, 1878, p. 44.)

Syphilis is unquestionably a disease of surprises. There is no organ nor tissue of the human body which it may not invade; and it would be indeed strange, if, with such an extended field of attack, its incursions should not be at times unexpected, both as to date, direction, and severity. The recognized predilection for special tissues, of many common pathological processes, often furnishes a clue to their probable course and issue, but this is not true of many of the complications in syphilis. It is rare, also, to note in non-specific disorders that complete inversion of the established sequence of events, by which phenomena of usually tardy occurrence not only become precocious, but are even succeeded by symptoms ordinarily present only in the incipient stage of the disease. This is, however, not rarely observed in syphilis.

The result is two-fold. There are observers whose maxim seems to be, "once a syphilitic, always a syphilitic." They ignore the

positive proofs afforded by reinfection, from which it is possible to conclude that syphilis is eradicable; and, if an individual but admits that he has once suffered from chancre, they hasten to refer to it every subsequent disorder of the cutaneous, osseous, muscular, and nervous systems. Others err in a different direction. They are unwilling to believe that an insignificant lesion, which possibly existed a decade or more of years ago, can explain the obscure phenomena with which they are confronted to-day. Even so late as the year 1873, Després, for example, took occasion to announce in public, his disbelief in the existence of gummy tumors as specific products.

Of all the diseases in our nomenclature, there is probably none with regard to which so many points have been hotly contested, and where so many great names have been found on either side of the controversy.

One of these disputed questions, and by no means a new one, respects the possibility of transmitting syphilis through the medium of physiological secretions. Can it be shown that the tears, sweat, saliva, mucus and semen of a syphilitic individual, when not commingled with blood or pathological products, are incapable of producing the disease in a healthy person, whether these secretions be swallowed or introduced hypodermically? It is hardly necessary to observe that the contagious qualities of the blood in syphilis have never been questioned since Prof. Pellizari, of Florence, employed it for the transmission of the disease to his pupil, Bargioni, an experiment the results of which are embodied in almost every treatise on the disease.

With respect to the transmissibility of syphilis in milk, we find the question under discussion as early as the latter part of the 15th century, and continuing *sub judice* up to this day—a discussion in which Hunter, Swediaur and Cullerier, with others, have held that it was innocuous, while such authors as Astruc, Bell and Diday have advanced a contrary opinion. Gallois (2), in an interesting sketch of the history of this controversy, mentions the following names of authors who have contributed to it during tho last fifteen years: Melchior Robert (1861), Langlebert (1864), Ricordi and Plaite (1865), and Cerasi (1866), all contagionists; Rollet (1861, 1866 and 1875),

Pellizari (1866), Profeta (1877), and Geigel, all opposed to the theory of contagion; Bumstead, Galligo, Belhomme and Martin (1864), Davasse (1865), and Lancereaux and Scarenzio (1866), who are not committed to either side of the question.

One of the latest arguments upon this subject has been presented to us in the form of an experiment made by Voss (1), of St. Petersburgh, the results of which, as they have been widely published, have attracted a great deal of attention. Voss expressed some milk from the breast of a syphilitic female, and, by means of a Pravaz syringe, injected the fluid beneath the integument of three prostitutes. One was syphilitic, and no result followed. The second, affected with urethritis, suffered no ill effects. The third had local swelling, resulting in suppuration at the site of inoculation, but this in a week was relieved. In 40 days, however, a papular eruption appeared near the point where the virus was inserted, and, a few days later, a maculo-papular exanthem spread over the body. The disease was subdued by mercurial treatment.

The result of the first two inoculations being merely negative, we are concerned merely with the conclusion which might be drawn from a superficial examination of the effects of the inoculation in the third case. Was the injected milk the vehicle by which the virus was conveyed to this individual? The only answer which would be justified by the facts given is, that the affirmative has not been unequivocally shown. Obviously a prostitute in hospital does not supply the most favorable field for experimentation of this sort, since the suspicion will arise that she may have suffered from undetected chancre; and may also have been in the incubative period of the disease when submitted to experiment. When we remember what the illustrious Fournier says of the early appearances of chancre in women, declaring in so many words, that it is well nigh impossible not to be mistaken with regard to its character in consequence of its apparent insignificance, we become convinced that only one who is an adept can safely pronounce a prostitute to be free from this disease.

Gallois shows with regard to this case that the extraordinary duration of the incubative period (40 days) is not what might have been expected in view of the fact that in general, after inoc-

ulation with the virus of syphilis, this period is shorter than that which succeeds ordinary infection. The history, too, of the initial sore is not that of the typical papule of inoculation. And, lastly, the advent of secondary symptoms in five days after the determination of the primary lesion, is so manifestly opposed to the view that the latter was really the point of entrance of the syphilitic virus into the system, that the case may be discarded so far as it is held to prove the transmissibility of syphilis by the medium of the milk.

It is unnecessary to remark that the somewhat venturesome experimenters of the Italian school, have not failed in the past to test this question by a similar process. Padova inoculated the milk of syphilitic women on six different occasions with negative results, and Profeta, of Palermo, had no better success after as many experiments.

Dismissing, therefore, the questions which are suggested by inoculation with milk supposed to be syphilogenetic, we are confronted with another, of greater interest in a practical point of view, viz., Is there danger for the healthy infant in the ingestion of the milk of a syphiltic nurse? Of course for the syphilitic infant there is no such danger, as it cannot be reinfected with the disease which it has itself already actively and recently manifested. Fournier has called attention to an interesting fact in this connection, that syphilitic nurslings thrive better on the milk of syphilitic nurses than when bottle-fed. Hence, when the nurse has once infected the child at her breast, or the mouth of the child has produced a chancre on the nipple of the nurse, in all cases where it is possible to do so, the two should continue in their former relation for the sake of the child.

In general, of course, there is great danger to be apprehended from placing a healthy infant at the breast of a syphilitic nurse, since the former is almost certain to contract the disease. This result, however, is not due to the infective quality of the nurse's milk, but to the fact that the subjection of the nipple to the gums of the child is liable to irritate the tissues in the former locality, and thus to provoke there the occurrence of mucous patches, or cracks and fissures which may subsequently become transformed into lesions of constitutional syphilis.

The question then is resolved simply into this form: Can the milk of the syphilitic nurse, when not commingled with blood or pathological products, produce the disease in the healthy infant who ingests it?

The clinical facts which authorize a negative answer to this question are numerous, of great interest, and have been furnished largely by the authors whose names have already been given. To these De Amicis (3) contributes an additional observation, and, inasmuch as the history of the case is otherwise instructive in many particulars, it is subjoined in a condensed form:

Annie R., æt. 40, had always enjoyed good health in her youth, and was married in her 22d year. In the first six years after her marriage she had two sons, who are now living and in good health. Her troubles began twelve years ago, when she was nursing her third infant. At that time she had an abundance of breast milk and her child was vigorous, when a neighbor, who had lost her own child, adopted a sickly and emaciated infant taken from a foundlings' home. Sgra. R. was urged to give her breast for a brief time to this sickly child.

The little stranger was nursed for but one day only, as it was then seen to have a sore mouth and an eruption over the skin; and these facts induced Sgra. R. to refuse to nurse it longer. She had reason only too soon to repent of her charitable conduct. A crack appeared upon the left nipple, considerable tumefaction resulted, and she was threatened with suppurative mastitis; but the inflammation subsided under the usual treatment. An induration, however, remained in the site of the fissure, which occasionally pained her. Ignorant of the nature of this disorder, she continued to give her breast to her own healthy child; but, in a few months, she found her own skin covered with a maculo-papular eruption, accompanied by cephalalgia and peri-articular pains. The child, too, soon had ulceration of the buccal cavity, adenopathy, progressive impairment of nutrition and cachexia; it subsequently died.

The mother continued to suffer from pain for several months afterward, and her cutaneous disease rapidly assumed the pustular type (ecthyma). She was submitted to treatment, of the nature

of which she is ignorant, including the employment of the thermo-mineral baths of Ischia, without receiving any benefit, the pains increasing and the cutaneous disease remaining unaffected.

Six years elapsed, during which treatment of various character was employed, with no better results, except that she had periods of exacerbation and repose of the malady.

She was seven times pregnant in this interval. The first three pregnancies resulted in abortion between the third and fifth months. In the other four, the children were carried to term, the first two surviving but a few days, the others reaching the age of three years, when they died of typhoid and diphtheritic disorders, without having ever manifested lesions of the skin. After the first two of the last pregnancies—those in which the children died soon after birth—she had again an abundance of breast milk, and dreading its sudden suppression, she suckled two children (one after each pregnancy). These children were then in good health and are now living, vigorous and rosy, their appearance being the best evidence as to their excellent general condition.

In 1874, ten years after her infection, she became pregnant for the last time, and then noticed on her face (especially about the right cheek), the arm of the same side, and the left thigh and foot, certain reddish nodules, which healed after ulceration, leaving more or less deep cicatrices, which are still visible.

This pregnancy was concluded at term, and she bore a well nourished and well developed child, which she nursed, and which remained free from all evidences of disease up to the seventh month. She found, however, that she had not sufficient milk for this infant, and hence arranged with her cousin (whose own child was dead, and whom she believed to be in sound health), that the latter should give the child her own breast. She subsequently discovered that this cousin had a maculo-papular eruption upon the skin, similar to that from which she herself had formerly suffered, as well as rhagades of the nipple. Two months afterward the baby had aphthæ of the mouth, and a skin disease quite like that observed in her own case. The infant was soon relieved of these symptoms; but in 1875 small pustules appeared about the nates and genitals, and spread over the surface from these points. Simultaneously the mother developed tubercles over the right and

left elbows, which ulcerated and on one side resulted in the limb being semi-flexed. Other tubercles appeared over the os frontis, sternum and tibia, occasioning excruciating nocturnal pain and more or less distress throughout the year 1876.

Such was the history of the case, and the examination of the patient fully confirmed its essential accuracy. Over the sinciput were various irregularities of surface, due to loss of osseous substance beneath, cicatrices clearly adherent to subjacent tissues, and brownish crusts, beneath which were perforating ulcers of lardaceous aspect. Over the central part of the frontal region, a depressed, adherent, V shaped scar was seen, the osseous tissue centrally having been absorbed, surrounded by peripheral hyperostosis. Over the temporal regions and cheeks were circular and oblong, whitish cicatrices, interspersed here and there with cherry-sized tubercles, some in course of degeneration. Over the manubrium of the sternum was a reddish hemispherical tumor as large as a silver dollar, painful on pressure. Still another depressed adherent cicatrix was found over the left clavicle. An enormous area of cicatricial tissue extended also from the inferior fourth of the right arm to the inferior third of the forearm; indurated, adherent and covered here and there with round, oblong and semi-circular ulcers of foul base. At this point also irregularly shaped cicatricial bridles had produced pseudo-anchylosis of the elbow joint, evidently not due to bicipital contracture. Adherent cicatricial patches, surrounded by clean cut ulcerations, showing a foul base and abundant discharge, extended also from the lower third of the thigh to the inferior fourth of the leg. The diaphysis of the left tibia was double its normal size and tender on pressure. The patient complained of cephalalgia and nocturnal and osteocopic pains. There was no albumen in the urine.

The child, when examined, was found to be emaciated and weak, the head also being disproportioned to the size of the body. Its incisor teeth were not deformed. Yellowish, grey and brown, fatty crusts covered its scalp, beneath which were superficial excoriations of reddish-white aspect and indeterminate margins. There was cervical and submaxillary adenopathy, some of the glands being as large as a pigeon's egg; one, on the right side,

had suppurated. Punctiform cicatrices, light reddish brown in hue, were to be seen over the abdomen and back. The tumefied labia majora and minora showed flat, grey, ulcerative patches, which also extended to the anus and nates. The inguino-crural glands were as large as almonds.

The author, of course, does not neglect to draw the conclusions from this case which the facts warrant. The innocuity of the milk of this woman, immediately after each of the pregnancies in which the products of conception, though mature, perished from syphilitic infection, seems to be clearly shown by the immunity and even sound health of her two foster children. Fortunate, indeed, it was for those latter that, during the entire time of lactation, no mucous patch or transformed fissure of the nipple, occurred to menace their safety; for it is well understood to-day, not only that mucous patches may form in the later stages of syphilis, but even that tertiary lesions may furnish infective material, as Bumstead and others have shown.

But De Amicis draws two other conclusions from this clinical history, to which we can accord only partial assent. He formulates the statement that the influence of the syphilitic virus, in itself, does not tend to produce sterility in women, when no change is determined in the organs of generation. This is undoubtedly true, provided it be limited to the fact of conception merely. Practically, syphilis, actively manifested in the female, produces results which are, in the end, not different from those observed in the woman who is sterile; since abortion, due either to placental degeneration or to the blighted ovum itself, is almost pathognomonic of the disease.

Finally, the author concludes, from the fact of the birth of a sound child—the last of the series of pregnancies referred to above — that hereditary syphilis cannot be transmitted in the neoplastic or tertiary stage. This is unquestionably an error, and can readily be refuted by well-established clinical facts. It is true that the power of a parent to transmit syphilis to his offspring wanes with lapse of time; that the sequence of diseased, less diseased, and, finally, healthy children, is a measure of the parental diathesis; and that the chances of sound progeny are greatly increased when treatment has had the effect of time in

modifying the disease in the progenitor. But it is also true that the syphilitic father or mother may have diseased children born after they have produced sound infants, and many a father, in the tertiary stage of syphilis, has had occasion to regret the legacy bequeathed to his child.

There is one point upon which De Amicis lays no stress in narrating the history of his case, which merits attention. It is the illustration furnished of the difference between congenital or hereditary syphilis in the infant, and the disease as acquired in infancy. The latter is often named infantile syphilis, though the term is one which misleads many. The two forms of disease are distinctly different. Congenital disease is strictly hereditary. The infant is not poisoned, as was at one time supposed, by an infection occurring at the moment of birth, but is blighted *ab ovo*, so that not merely its cutaneous surface, but its bones and viscera, are liable to display the lesions of the disease. Acquired or infantile syphilis does not differ in its features and career from the acquired disease of the adult, exception being made, possibly, of the tendency of the cutaneous exanthem to assume the form of the mucous patch. This is due to the warmth, moisture and delicacy of the skin of the infant, explained in part by the circumstance that, in very early infancy, the hand is not used in toil, nor the foot in the act of walking.

Although it is not stated that the child from whom Sgra. R. received the disease, was the subject of *congenital* syphilis, still the facts tend to confirm such an opinion. It is described as having gradually become wasted and sickly (*cresceva meschino e malaticcio*), thus suggesting the appearance of premature wrinkled senility, so highly characteristic of the hereditary form. The still-born fœtus and the children dying soon after birth perished of hereditary syphilis. Contrast with these facts the history of the product of the last pregnancy. This child remained well till the seventh month. Few victims of hereditary syphilis survive the fourth month without displaying symptoms of the affection. Arrived at the seventh month, this child acquired the disease as directly as if it had been an adult. Its history, as given by the mother, includes merely a description of adenopathy and cutaneous lesions, confirmed subsequently by a

physical examination. Moreover its teeth did not display the changes so minutely described by Hutchinson, as characteristic of the hereditarily syphilitic child.

Dr. Jordan's paper (4) seems to have been prepared with a view to establishing either one of two propositions, and the author does not appear to be greatly interested as to the issue between them. The title of the paper would suggest that the cases are cited in illustration of the theory that the semen of the syphilitic male is *per se* infectious. A similar suggestion is conveyed in the following language: "Syphilis * * * transmitted to the female through the medium of the seminal fluids of the male." Yet in another passage, which refers to the mode of infection of the wives whose cases are reported, the phrase occurs "ladies * * * infected through the medium of the aborted fœtuses." These two propositions differ *in toto*. The one expresses a belief in the infectious character of the semen; the other embodies the doctrine which Diday of Lyons has rather fancifully termed the theory of *choc-en-retour*. In accordance with the latter view, the semen of the syphilitic male transmits hereditary syphilis to the ovum, and this ovum, when it has established intimate relations with the maternal vascular system, poisons the mother. This is really transplacental infection.

The main points in Jordan's case, observed by himself, can be briefly given: A stout and healthy railroad employe had a chancre in 1875, relieved by treatment which, as he states was succeeded by no further lesion. In June of 1876, his wife, 17 years old and seven months pregnant, miscarries with a male child, who utters a moaning, husky cry, has snuffles, and dies in 12 hours. On the 19th of July, the mother has a copper-colored eruption on her face and body, severe iritis and sore throat. She denies having ever suffered from adenopathy or genital sores, and is relieved by anti-syphilitic treatment.

This is a fair example of many reports which are constantly made to medical literature, with a view to establishing one side or the other of a disputed question. For a case to be conclusive on any point, the fullest details and corroborative evidence of every kind are requisite. How much more needful is this when the point is one in controversy! A case fully and conscientiously

reported, is an accurate digest of the operations of natural laws, and carries its own corroboration upon its face.

In the instance given above, the sole evidence possessed by the author as to the non-existence of chancre in the wife, is the statement of the latter to that effect! But how few are those married women who know when they suffer from such lesions! Hutchinson has recently declared that it was a useless cruelty to ask a married woman whether she had ever had a chancre, and that her testimony on this point was valueless. Allusion has been already made in these pages to the frequently insignificant character of the primary lesion in women. Even the expert may fail to discern such, in scrutinizing carefully some thirty square inches of vaginal mucous membrane. Had Dr. Jordan, when he wrote his paper for the benefit of the readers of the *American Journal of Obstetrics*, never treated women for non-specific abrasions and ulcerations of the os tincæ, the existence of which they had not dreamed of till his speculum brought them to the light?

By carefully collating the dates given, it will be clear to any one who will take the trouble to investigate the problem, that the chancre of the male, in this case, could scarcely have been healed at the time of his marriage.

But it is not needful to suppose that a syphilitic husband has infected his wife through the medium of the semen, merely because he has no external lesion. It should be remembered that a single drop of his blood is capable of producing the disease in his partner. I have elsewhere* enlarged somewhat upon this point in discussing Diday's recent paper on Syphilis by Conception, and do not therefore dwell further upon it at this time.

The second case reported by Dr. Jordan was observed by Dr. J. C. Mobley, of Winnsboro, S. C., the history of which is said to be given also in the October number of the *Charlestown Medical Journal and Review*. It is briefly this:

A young man, aged 24, examines himself carefully every day for three weeks, after indulgence with a woman of the town, and discovers nothing amiss until a suppurating adonopathy occurs in

* "On the Immunity of Certain Mothers of Children Affected with Hereditary Syphilis," a paper read before the American Dermatological Association, Sept. 5, 1877.

the groin. For one year and a half he is under observation, without exhibiting any suspicious symptoms, when he marries, and his wife aborts in the third month. She then exhibits a pigmented syphilide, loses a luxuriant growth of hair, and, in the next year, has a still-born child in the seventh month.

This case also is so loosely reported, that no clue is afforded as to the accuracy of statement or powers of observation of the author. If it bears in any way upon the question of the transmissibility of syphilis in the semen, it will answer equally well as an argument in favor of the saliva, the sweat, or the tears. It is impossible to interpret intelligently any of the mysteries of pathology from such imperfect data, but the facts narrated, suggest the probability that the adenopathy for which the husband was first treated, was associated with a concealed chancroidal ulcer —one for example just beneath the frenum, where I have discovered chancre in patients who affirmed they had never suffered from such lesions. Allowance should always be made for the ignorance of individuals unskilled in observations of this character. For example, I was consulted on the 10th of last November, by an intelligent gentleman of this city, for the relief of an inguinal enlargement, which he declared had always existed, but which he fancied had lately increased in size. I questioned him carefully as to the existence of any venereal sores, and he stated in the most positive manner, that he had never displayed such lesions. I at once proceeded to test the value of this statement by examination, and called his attention to a crust-capped, split-pea sized, indurated nodule, upon the right side of the cutaneous surface of a readily retractable prepuce, in full view of his own eyes as well as of mine. Nothing could exceed his unassumed astonishment at the discovery; and he admitted at once to the exact date of the intercourse by which he was infected.

As to the syphilis acquired by the wife in the case referred to above, it is most readily explained by supposing that at some time before his marriage, on an occasion when he thought it prudent not to consult Dr. Mobley, the husband contracted syphilis, and communicated the disease to his wife in the usual manner.

How often in the history of medicine has a beautiful net-work

of speculation and theory been sundered by the lancet of the experimenter! The modest paper of Dr. Hippolyte Mireur (5), solves the problem under consideration in a very simple and straightforward manner, although it must be admitted that, outside of France, an author would scarcely venture to conduct his experiments and afterward to publish the results. Indeed, Mireur admits that a sense of delicacy obliges him to be reticent as to certain details respecting the individuals who have had the boldness to take part in a procedure which many would consider culpable.

A syphilitic patient affected with adenopathy, maculo-papular syphilides, mucous patches of the mouth and impetiginous crusts on the hairy scalp, had never been subjected to specific treatment. He was 26 years of age, and his chancre had cicatrized, leaving a characteristic induration.

The semen of this individual was obtained, and, due care being taken to maintain it at the proper temperature, it was, immediately after its production, used for the purpose of inoculating four persons absolutely free from syphilitic antecedents. All the instruments employed were new and scrupulously clean.

The inoculation of the first two was practiced in the ordinary manner, by means of a grooved needle; six punctures were made in each case—three on each arm. In the third subject, a blister as large as a thimble was produced upon the right leg, the epidermis removed, and a pledget of lint, soaked in the seminal fluid, applied over the derma. This was carefully dressed, and left *in situ* for twenty-four hours.

The fourth was inoculated by the precedure employed by Pellizari in the case of Bargioni, Rossi and Passigli. Near the insertion of the deltoid of the right arm, the epidermis was scraped away, and three small transverse incisions made; the seminal fluid being applied in the manner last described. The wound was dressed, and the whole kept in place for thirty-six hours.

In the instance of the first two individuals, slight local inflammation ensued a few hours after the operation, but this was readily reduced, leaving minute ecchymotic points, which, in five or six days were indiscernible.

In the case of the other two individuals, there was not even

this slight degree of reaction. All four were minutely and rigorously inspected daily for ten weeks, and then kept under observation for six months. During this period, none exhibited the slightest evidence of syphilis; and two of them, examined one year after the inoculation, still remained exempt.

Mireur, anticipating the objections which might be made to definite conclusions from this series of experiments, answers them briefly as follows:

It may be said that the number of individuals inoculated was small. True, he responds; but if he has not established a certainty, he has, at least raised a presumption of very great probability in favor of the non-contagiousness of the sperm in syphilis.

If it be objected that the semen, exposed to changes by the peculiar conditions of its production and preservation, might have lost its contagious qualities, which it would have retained in the passages of the female, the author would point to the well-known fact of the length of time during which spermatozoids preserve their vitality under much more unfavorable conditions than those obtained in his experiments. It is also well known that the syphilitic virus, when isolated, retains its power to produce the disease for definite periods of time, even when exposed to the air on instruments, transplanted teeth, etc.

But it may be claimed that the virulent principle is localized in the spermatozoa only, and not diffused through the seminal fluid, and that the virus would be so far destructive to the activity and vitality of these elements, as to render the fluid useless as a material for inoculation. To this objection, Mireur replies by pointing to the well-recognized fact that syphilis, though diffused throughout the human organism, is not known to diminish the procreative power of infected males. Besides, he has submitted to microscopical examination the semen of such subjects at various times, and always found the elements perfectly developed and vigorous. If the virus affected these cells to any extent, would it not rather tend to destroy them (as do heat, cold, acids, alkalis, bile, mucus, altered vaginal secretions, etc.,) than to bring about their gradual degeneration and lowered vitality?

"But," say others, perhaps, "the virus is contained in the

spermatic element, and, as the latter cannot enter the circulation, the inoculation gave negative results." It is answered that all the doctrines of contagion teach that mere contact between a virulent germ and a surface deprived of epithelium, is sufficient to ensure this result. Besides, granting that the virus and the spermatic elements are united, it is not necessary to believe that only mature cell elements contain the poison; for the seminal liquid is made up not only of mature elements, but of undeveloped cellules, which, by this hypothesis, would be virulent. These, like blood corpuscles, are susceptible of undergoing absorption, and would thus be capable of transmitting the disease to a healthy individual, had they any such virulent quality.

Drs. Maury and Dulles (6) report a series of cases of acquired syphilis, which are, in many particulars, exceedingly interesting and instructive. In this connection, however, we are concerned merely with the light which they throw upon the questions respecting the saliva.

A vagrant, named James Kelly, contracted four or five chancres, in February, 1877. On the 14th of April, he was treated in the Pennsylvania Hospital for mucous patches of the mouth and condylomata about the anus, and, June 20th, returned with the same disorder. In October, he was detained in the House of Correction.

This man was a "professional" tattooer, and his mode of operation was the following: "Selecting a figure from a book of plates, he would rub up India ink with water, and prick the outlines in with a few needles set in a holder. Then putting the needles in his mouth and sucking out the residue of pigment, he would thrust them, thus moistened, into a bottle of powdered vermilion, and insert what adhered. To renew the vermilion, the needles were repeatedly wetted in his mouth. In some cases, both pigments were moistened with saliva; and in others, he spit upon the finished tatoo, and rubbed it well with his hand, or with a dirty cloth."

For the six months during which this man had lesions of the mouth, he steadily did his work, and the number of his victims—those whom he infected with syphilis by inoculating them with his saliva mixed with the secretion of mucous patches—is not

known. Twenty-two of the men exposed to this danger were examined by the authors. Of these, fifteen had unmistakable syphilis, resulting from the tattooing. Three had more or less recently suffered from syphilis before the operation, and, of course, were not reinfected. Four seemed to have escaped entirely.

Was it simply the saliva of a syphilitic man that induced the disease in the fifteen who displayed lesions, or was it such saliva mixed with secretion from the mucous patches in the mouth?

The answer to this is very explicit. The saliva evidently did not produce the result, since it is expressly stated that in each of the four persons who were tattooed, *and who yet escaped infection*, either the *pigments were mixed with Kelly's saliva, or when water was used as a substitute, the operator repeatedly inserted the needles into his mouth* for the purpose of removing the India ink.

Why did these four escape—one of them tattooed on two different occasions? The conclusion is irresistible that it was not the saliva which was capable of infecting; and that for some reason, by accidental cleansing of the mouth or temporary amelioration of the condition of the buccal cavity, the mucous patches did not, at the time these four men were subjected to the operation, furnish the highly contagious secretion which proved so disastrous to the rest.

Were it not exceeding the scope of this article, it would be interesting to show further that even some of the pathological products in syphilitic individuals are incapable of producing the disease in a healthy person. Diday, upon one occasion, inoculated with the contents of an acne pustule produced by the iodide of potassium in a syphilitic patient, with negative results. And it is now generally known that the contents of the vaccine vesicle in a syphilitic infant, can be introduced with impunity beneath the skin of a healthy child, and be even followed by normal vaccinia; provided always, that no blood nor inflammatory products are introduced at the same time.

I have thus attempted to collate a few recently communicated facts bearing upon the question of the contagiousness of some of the physiological secretions in syphilis; and am persuaded that their careful consideration will warrant the conclusion that

we have no evidence to prove that these secretions, when unmingled with blood and pathological products, are capable of transmitting the disease, whether they be introduced by ingestion or inoculation.

OBSERVATIONS IN PRACTICE, SURGERY, GYNECOLOGY, AND ESPECIALLY OBSTETRICS.

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(*Read before the Indiana, Illinois and Kentucky Tri-State Medical Society, in Evansville, Oct.* 17, 1877.)

The professional observations of the writer of this article extend over a period of forty-six years—five years in Cincinnati, and the remainder in Evansville. The diseases met with were those common to the two sections, and, to avoid prolixity, I will confine myself chiefly to cases belonging to surgery, gynecology, and especially obstetrics. Every practitioner of medicine is necessarily familiar with malarial and gastric fevers, erysipelas, dysentery, cholera, cholera infantum, and the vast variety of endemic, epidemic and contagious diseases of the country, including the exanthemata; and though familiarity can never destroy the interest felt in them, a particular description of them, including history, pathology and treatment, might be made to fill volumes, and would prove too extensive a subject to embody in a report like the present.

At the meeting of the Tri-State Society, held in Vincennes two years ago, the writer was appointed to make a report on anæsthetics, and also on observations and experience in practice, and to avoid consuming too much time, and since on reflection I concluded that I could not state anything of importance, new, or even as valuable as information already before the profession, especially the valuable and exhaustive contribution of Dr. Simpson, I have thought best to embody what I have to say on this important subject in the present essay. Simpson and others, who have taken pains to investigate anæsthetics thoroughly, have described quite a number of articles efficient to destroy the feeling of pain, and therefore I can do no better service than to refer to their works

for information in detail. Let it suffice that opium, alcohol, ether, chloral, nitrous oxide gas and chloroform, constitute nearly everything desirable as anæsthetics in medical and surgical practice. Whilst many of our New England brethren prefer ether before chloroform, in old England, under the intelligent leadership of such men as Simpson, chloroform takes precedence. It is urged in favor of ether, that its inhalation is less dangerous to life, and in favor of chloroform, that it is more pleasant to the taste, and more speedy and reliable in securing the object desired. It is possibly true, that the greater rapidity and certainty of action of the latter article, are the qualities that make its use comparatively more hazardous. Anæsthesia, properly speaking, is, to a limited extent, a suspension of the vital functions, and, so far as this suspension extends, is the approach to death. Anæsthetics appear to paralyze the phenomena of life, in something like regular order: 1. By loss of sensation and voluntary motion. 2. By suspension of the heart's action. 3. By suspending the respiratory functions. Their utility depends upon their action being first expended on the organs of animal life, and their use may be considered safe so long as their administration is not carried beyond this point. As long as the circulation and respiration are not materially disturbed, the danger is at its minimum. It would not seem to be an unreasonable inference that in all efficient anæsthetics, the good and bad qualities are necessarily conjoined. If ether were equally prompt with chloroform in suspending sensation, its dangerous qualities would be similar. To avoid dangerous results, all anæsthetics must be used with caution, the circulation and respiration must be carefully watched—suspension of either would necessitate the immediate withdrawal of the anæsthetic, and the application of the means of restoration. Nitrous oxide gas is relatively more safe, in consequence of the shorter duration of its specific effects, but for this reason, it is not well adapted to the more tedious operations of surgery; for operations requiring but little time, like the operations of the dentist, it should generally have the preference; for longer infliction of pain, perhaps there is no remedy equal to chloroform inhalation. It seems to be a prevalent belief, that in certain morbid conditions of the heart and respira-

tory organs, anæsthetics are specially unsafe, and if used in such cases, the strictest precautions ought to be observed, by watching the functions of the vital organs. If a portion of the texture of the lungs should have been destroyed, or seriously damaged by disease, so as barely to suffice for the necessary aerification of the blood, it is very plain that to inhale gases devoid of oxygen, must, to a greater or less extent, suffocate the patient. It is but a reasonable conclusion, therefore, that such lungs would disqualify the patient from anæsthesia through inhalation.

From a fair and philosophical view of the advantages and dangers of anæsthetics, as administered by the lungs, to repudiate them entirely would be to inaugurate a retrogade movement of the profession. Beyond question, in surgical cases, many lives are saved through their use and few destroyed, whilst the benefit of painless operations is beyond comparison. The relaxation, the entire freedom from resistance or complaint, and the unconsciousness of pain during a serious operation, are among the benefits of anæsthesia. The relaxation following their use especially favoring obstetrical manœuvres, is of incalculable benefit, as every practioner of experience well knows. In delicate operations on timid persons and children, for instance on the eye, the advantage of securing perfect quietness is frequently more important than skill itself. The danger arising from shock, common in all serious operations, is almost entirely avoided by anæsthesia, and, in short, in the present enlightened state of surgical science, the operator who would fail to avail himself of this resource would be inexcusably culpable. To deny its use would frequently subject the patient to a painful apprehension of suffering, and a harrassing mental excitement, equal in degree to the pains inflicted by the surgeon, and ten-fold more dangerous to life than anæsthesia. When used to mitigate the pains of labor, as must occasionally be consented to by every practitioner, even to gratify the fancy of the patient, if for no other reason, it will generally be advisable to withhold its use to a late period, say when the perineal tumor is forming, and even then at the termination of each uterine contraction, otherwise its operation might be excessive and continued through an unreasonable period. With such precautions, the pains may be moderated without being entirely de-

stroyed, the patient's mind will be at ease, and the labor completed with perfect safety and mitigated suffering. Its excessive use in such cases must cause the blood of the patient to be highly impregnated with the drug, and even the infant's blood also, as is manifested occasionally by its odor on dividing the cord. In obstetrical, as in other surgical operations, the anæsthetic must be more liberally applied, inasmuch as the insensibility should be more profound than in natural delivery. That the remedy has some effect on the uterine contractions to modify their strength in many instances, there can scarcely be a doubt. Generally it weakens the action, making the pains less frequent and less strong, the labor being retarded, not otherwise suspended. In some cases the contractions continue without change by increase or diminution, whilst in others again they are perceptibly increased. It is not unreasonable to suppose that perfect calmness of mind and freedom from excitement of the system generally, such as may be secured by anæsthesia, would favor a more healthful supply of nervous power to organs engaged in labor, and thus give increased strength for the accomplishment of the function. This would especially be the case in irritable women and those commonly denominated nervous. Finally, it is perfectly reasonable to assume that anæsthesia places in the hands of the physician and surgeon one of the most valuable resources for the mitigation of human suffering, and in view of its great advantages, a comparatively safe one.

Ascites.—1 *Case.*

Dropsy being a common disease, and the form of ascites being also common, I forbear entering upon a full account of the malady, but have deemed a single case of sufficient interest, to make a general report of it.

Mrs. S——, aged about 50 years, mother of three or more children, had suffered for several years from visceral disease, now become chronic, of the organs of the abdomen, which culminated in ascites. The patient refusing the necessary treatment, the accumulation in the peritoneal sac increased, until the pain caused thereby could no longer be endured, and paracentesis was at length submitted to, when, 7 gallons of serous fluid came

away. In about 5 months the operation was repeated, and the same large quantity drawn off. After this time until the present, September 23d, 1877, the intervals between operations have grown shorter by degrees, until now, the tapping is required about once a month, the quantity drawn off each time, never being less than 5 gallons, and has averaged no less than 6 gallons of fluid. The patient has been operated on 34 times, to wit: First on March 7, 1872; the last, September 23, 1877. The whole amount drawn off, therefore, is no less than 204 gallons. At present writing, the patient shows little sign of dissolution, and may yet be the subject of many additional operations. She still refuses to submit to efficient curative treatment, and often objects to such medication as may be necessary for her comfort. Indeed, she not unfrequently expresses a longing desire for death, that her sufferings may be ended.

Lithotomy.—1 *Case.*

Mr. O——, aged 19, rather a delicate youth, but not specially unhealthy, excepting perhaps for some seminal weakness, thoughtlessly introduced a button into the urethra, and allowed it to pass backwards into the bladder, two years before the operation for stone. Since this time, urinary troubles and irritable bladder have occasioned annoyance. Preparatory soundings revealed the presence of a foreign solid body in the bladder. The rectum and bladder having been properly attended to, he was subjected to lithotomy by the lateral operation, May 30, 1876. No great difficulty was encountered in making an entrance into the bladder, and the stone was withdrawn by aid of the scoop; chloroform was used.

The patient was left in a comfortable condition, a gum elastic catheter occupying the wound. The stone weighed 94 grains, and measured 1 inch by $\frac{3}{4}$ inch.

June 5th.—Sixth day after operation; hemorrhage to a moderate extent, from the bladder, was present yesterday, but ceased to-day; had a chill, followed by fever, the day before yesterday, with some vomiting; had chill yesterday; took quinine in sufficient quantity to affect the head; but little urine is escaping through the wound. Enemata, followed by a dose of salts, were

administered yesterday, no action of the bowels having taken place since the operation; a pretty free evacuation was secured; quinine and injections to be continued, the latter, when needed, every second day.

June 11th.—Twelfth day; for several days past quinine and cinchonidia have been discontinued, as being no longer indicated; indeed, no medicine has been administered, excepting saline laxatives, to empty the bowels, and morphia occasionally, to restrain excessive action. Four days ago, one or two drops of fecal matter appeared in the urine, escaping from the urethra, also a drop yesterday, as reported by the patient; gas also escaped with the urine; for the last 24 hours, no fecal matter nor gas has come away through the urinary canal, and no urine has escaped by the wound. Supposing a fistulous opening to exist betwixt the rectum and bladder, why, then, should fecal matter escape by the urethra, and not by the wound, while urine was still escaping by the wound?

July 16th.—Forty-seventh day; the patient nearly well; wound almost healed up; can retain his urine from 4 to 6 hours without inconvenience, discharging from 6 to 8 oz. at each micturition. No urine has passed by the wound for the last two weeks, and no further trouble is anticipated.

August 1st.—The recovery is complete.

In severe injuries, such as compound fractures of the extremities, the writer has frequently chosen a conservative practice, and although the injured limb may sometimes have been saved, it was in some instances left in a condition so defective, especially from damage to the soft parts, as to indicate that amputation would have been preferable. The limb was preserved, but the flesh remained unsound, and the slightest scratch or abrasion would result in an open wound. In two instances of this kind, now recollected, the patients would have preferred complete ablation of the damaged limb; an artificial leg would have secured for them more comfortable locomotion than the imperfect though natural one.

Imperforate Hymen.—1 *Case.*

Maggie ——, 17 years of age, single, had never menstruated, though breasts and genitals were apparently well developed. A

gradual tumefaction of the abdomen had been going on for a long time, until now, May 6th, 1862, the enlargement simulates advanced pregnancy. She had recently suffered some tormina, tenesmus, and dysuria; to relieve these symptoms, she had taken anodynes and diuretics. Tenderness of the abdomen, especially in the hypogastric region, was now present. On May 14th, a vaginal examination was permitted, which revealed a fluctuating tumor in the vicinity of the hymen, and complete occlusion of the vagina at this point, the tumor measuring one by two inches, and extending backward from the meatus urinarius to the fourchette.

The parts named were painful and tender, and the obstructing membranes of no great thickness. Handling it, caused straining, as of a woman in labor. The catheter being introduced into the bladder, brought away no more than two or three ounces of urine, with no relief of the urgent symptoms, and without reducing the abdominal tumor. Imperforate vagina was diagnosticated, and an abcess lancet was passed through the membrane closing the vagina, which gave egress to three pints of menstrual blood. So strong was the expulsive pressure that a stream jetted out, extending two or three feet from the patient. The fluid was characteristic of the menstrual blood, but perhaps a little more sanious, and of more offensive odor. On the following day an obstruction to the further discharge was found to exist, which was broken down by the finger, and an amount of fluid equal to the first passed away, resulting in immediate relief of all the symptoms.

Hermaphrodism.—1 *Case.*

The following case of uncertain sex, although not subject to the test of post mortem examination, is considered as sufficiently remarkable to justify being reported. A child of German parents was sent to me for inspection, by Dr. Thomas Runcie, an intelligent practitioner, in the country a few miles from Evansville, who had observed it from birth, and with doubts authorized its baptism as a boy. The child was nine weeks old, and apparently well nurtured; the scrotum was in appearance well developed, but no testes nor spermatic cords could be found. There was what

seemed to be a penis of ordinary size, or an enlarged clitoris; its measurement was 1¼ inches in length and ½ inch in diameter, with perforate urethra, the perforation extending to the glans; the glans had its prepuce, only defective at the frenum, the whole organ being bound firmly down against the supposed scrotum. Just posterior to the glans, as this rested against the scrotum, was an opening in the perineum, into which a probe was introduced 1½ inches, as into a vagina. At first sight, therefore, the child seemed to be a boy, but closer inspection revealed the organ of the female, sufficiently at least to prove it of doubtful sex. To determine the sex beyond question, testes should have been found, on the one hand, or ovaries and uterus on the other. The child died soon after the inspection was made, but no dissection or post mortem examination was practicable.

Occlusion of Os tincæ.—1 *Case.*

Mrs. B., aged about 25 years, mother of two children, was seen Oct. 17th, 1875; she had been in labor six hours under the care of Prof. Davidson, the pains being strong and regular. The head of the child presented, and was pressed firmly against the anterior wall of the cervix, and was engaging in the excavation. Dr. Davidson had been entirely baffled in his efforts to find the os uteri. A few months back, Mrs. B. had been afflicted with ulceration of the os, for the relief of which caustic applications had been used, which seemed to offer an explanation of the unfortunate occlusion. Having been requested to assist in the case, the writer soon became convinced that no opening existed between the vagina and uterus; the cervix was low enough to be within reach, by the touch. At the posterior part of the tumor formed by the inferior portion of the uterus, a surface slightly uneven could be discerned, which was supposed to indicate the site of the occluded os. An artificial opening was resolved upon, and a crucial opening was made with a scalpel, through the intervening tissue, where it was supposed the natural opening ought to be, and happily the success of the operation was attested by the escape of a portion of amniotic fluid. The child was expelled without further difficulty, through the artificial os, about an hour afterward. Subsequently to the labor, the patient suffered from a

slight attack of peritonitis, but finally made a good recovery. Subsequent examination proved that the newly-made os still remained open.

Obstetrics.

The observations made in the department of obstetrics, are predications upon the four positions, as laid down by Maggrin and Capuron, to wit: Two anterior and two posterior oblique positions of the presenting extremity of the child. I have notes of 822 consecutive cases of midwifery; of these 7 were twin cases, making 829 children. The presentations and positions were as follow, to wit:

Vertex presentations, 793, or 97 per cent.
Of these, 1st position, 431, or 54 per cent.
2d position, 308, or 31 per cent.
3d position, 13, or 1.6 per cent.
4th position, 10, or 1.2 per cent.

It is possible that some cases set down as 2d ought to be classed as 3d positions, the rotation of the head changing the occiput from the right sacro-iliac symphysis to the arch of the pubis, leading to misconception.

Breech presentations, 18, or 2.1 per cent.
to wit: 1st position, 11, or 61 per cent.
2d position, 4, or 22 per cent.
3d position, 3, or 16.6 per cent.
Feet presentations, 2, or .2 per cent.
to wit: 2d position, 1, or 50 per cent.
3d position, 1, or 50 per cent.
Face presentations, 4, or .4 per cent.
to wit: 1st position, 1, or 25 per cent.
2d position, 2, or 50 per cent.
3d position, 1, or 25 per cent.
Trunk presentations, 3, or .3 per cent.
to wit: Side, 2, or 67 per cent.
Chest, 1, or 33 per cent.
Presentations unknown, 10, or 1.2 per cent.
There were of male children 436, or 52.5 per cent.
of female children 393, or 47.4 per cent.

The results in the 822 labors, for one month, were: Mothers died, 8, or 1 per cent., to wit: From flooding, 3; other causes, 5. Children still-born, 28, or 3.3 per cent., to wit: From hydrocephalus, 1; general dropsy, 1; prematurity, 7; other causes, 13.

Of the 14 twins there were:

Presentation of vertex, 9, or 66 per cent.

" of breech, 3, or 20 per cent.

" of feet, 2, or 14 per cent.

Of obstetrical operations in the 822 cases, there were 21, or 2.5 per cent., as follow: Forceps cases, 10, or 1.2 per cent. of the whole number. Of these cases, children lost, 2, or 20 per cent.; women lost, 0.

Version cases, 11, or 1.3 per cent. of the whole. Of these cases, children lost, 4, or 36 per cent.; women lost, 0.

Of the obstetrical operations herein reported, it may be observed that but few of them belong properly to my own practice, being consultation cases. I have kept them separately, so that from my own list the proportion of operations to cases may be more fairly represented. According to this statement, no more than 2½ per cent. of cases required operative aid for completing the delivery. It may, however, possibly be true, that more mothers, as well as children, might have been saved had more operations been resorted to. Of late years I do not delay operation to so late a period of the labor as formerly.

The secale cornutum has seldom been used by the writer with a view to expedite labor, for the last 25 years, after a pretty extensive trial in early professional life; it is still administered, however, to promote contractions after delivery, and thus to prevent or check, post partum hemorrhage. The following are considered valid objections to its use as an oxytocic: 1st. It frequently fails to effect the expulsion of the child, in which case the woman is in a worse condition than if it had not been used, both from general exhaustion and special exhaustion of uterine power. 2d. The child, when expelled by the aid of the ergot, is liable to be dead, or dangerously asphyxiated, probably from obstruction of circulation through the cord, from continuous ergotic contractions. 3d. In all cases adapted to the use of

ergot, turning or forceps will be a better resource, being more expeditious, as well as safe, for both mother and child; and these operations are made more difficult after the ergot has been unsuccessfully used.

Inversion of Uterus.—1 *Case.*

Mrs. C——, aged about 22, in labor with third child, July 2, 1864, had inversion of uterus after first, and partial inversion after second labor. Immediately after the escape of the placenta, the fundus uteri gradually descended, occupying first the uterine, and next the vaginal canal, until finally, the whole organ had passed the os. Its restoration having been undertaken at once, was effected by gently indenting its most dependent point with the fingers, and gradually pushing it upward, until at length it was returned to its normal position. This effected, its full contraction was secured by mechanical irritation applied both externally and internally, the patient being carefully watched, until all danger from relaxation had passed over. From the strong tendency to inversion in this, as well as the two preceding labors, it would seem that some peculiarity of organization of the woman existed, favoring the mal-position, at least no other cause was perceptible, excepting a natural feebleness, and relaxed condition of the system generally.

Version.—27 *Cases.*

In my note book I find 41 cases of turning. The following were the conditions making the operation necessary, to wit.:

Placenta prævia, 6, or 14 per cent., only one being primipara.

Inertia, 13, or 30 per cent.

Descent of hand, 7, or 16 per cent.

Descent of hand and funis, 4, or 9.5 per cent.

Contracted pelvis, 4, or 10 per cent., one of these being primipara.

Flooding, 3, or 7.3 per cent.

Face presentation, 1, or 2.3 per cent.

Shoulder presentation, 2, or 4.7 per cent.

The turning was in every case podalic, and effected by seizing and drawing down the first foot found.

In the 6 placenta prævia cases, the membranes were unbroken at the beginning of the operation; in the remaining 35 the membranes had been previously ruptured in all excepting 2 cases, as follows, to wit.:

Ruptured 1 hour or less, in 8 cases.
" from 1 to 2 hours, in 2 cases.
" from 2 to 5 hours, in 16 cases.
" from 5 to 10 hours, in 5 cases.
" two days, in 1 case.
" three days, in 1 case.

Most of these cases were not seen until they had been for a longer or shorter time under the care of others, most of them female midwives, consequently an earlier operation was impracticable. That some of the cases resulted favorably, under the disadvantage of having had the waters long drained off, gives encouragement not to abandon such cases as not suitable for turning, but, on the contrary, in many instances, they may be successfully managed, even to a greater extent than the statements of some authors would lead us to believe. In these cases the mother's life may generally be preserved, and if the child be still vigorous, its life also, in a reasonable number of cases, may be saved.

The following are some of the most interesting of these cases:

Placenta Prævia.—6 Cases.

1. Mrs. R——, aged about 40, mother of several children, called in Prof. Bray at 9 o'clock a. m., Feb. 4th, 1853. The patient had been suffering more or less for two or three months, from uterine hemorrhage, which, until now, had not been considered alarming. The writer was called at 9 p. m. The patient had been flooding pretty freely, and had suffered moderate labor pains. The flooding flow was increased by each uterine contraction. Prof. Bray had already diagnosticated placenta prævia, which was acquiesced in after a vaginal examination. The os uteri was open to the size of a silver dollar—rather rigid; the vagina filled by a large coagulum. The placenta was attached to the left side of the cervix, extending entirely across the orifice, the edge being quite perceptible on the right side. By this time,

the patient was becoming much weakened from loss of blood. Delivery by turning was decided upon, as being indicated, without delay. The hand, on being introduced into the amniotic sac, revealed a left anterior presentation of the vertex; the left foot was secured and brought down, and the delivery completed in about thirty minutes. Some delay was caused by the head lingering for a short time after the body was born, to the great detriment of the infant; it was apparently at term, and asphyxiated; pulsation of the heart and large arteries continued for an hour, but natural respiration could not be established. The woman was much exhausted, but finally made a good recovery.

2. Mrs. ——, a German woman—43 years of age, had been in care of a midwife, since 9 o'clock a. m., July 5th, 1853. Prof. Byford saw her about 4 p. m. The midwife had noticed however, that the afterbirth was coming first, which view was confirmed by the touch by Prof. Byford. The writer was now called in, and finding the os uteri dilated to the size of a silver dollar, relaxed and dilatable, the patient in the beginning of the ninth month of gestation, with considerable flooding, the placenta extending half across the os, immediate delivery by turning was agreed upon. The hand was made to enter the uterus without difficulty, the membranes ruptured on the right side, this being opposite to that occupied by the placenta, the child's right foot was seized and brought down, and the delivery completed, by the second position of the breech. The child soon commenced crying, the pleasantest music to the parturient woman. The infant was rather feeble, from being premature; the woman was left in good condition, with the uterus well contracted.

3. Mrs. ——, a German woman about 45 years of age, supposed to be 8½ months pregnant, was attacked with flooding and labor pains, in August, 1854. She was at first under the care of an ignorant midwife for four days, at which time Dr. Weever, an intelligent physician, was called to see her. The patient having lost a large quantity of blood, was greatly exhausted. The writer was asked to see her by Dr. Weever, at which time the following condition was present: Patient apparently almost bloodless and *in articulo mortis*, pulse not perceptible at the wrist, extremities cold, uterine contractions feeble, but still continuing,

flow of blood still copious. Examination per vaginam, disclosed the presence of a granular fibrous mass within the os uteri, which was decided to be the placenta attached to the cervix; on each return of pain, this body was retracted to the right side of the os, the membranes being noticeable at the left side. Immediate delivery by version was resolved upon; Dr. Weever, however, expressing the opinion that the patient could not survive an hour, and might expire before the operation could be completed. The hand being introduced along the left side of the cervix, toward the presenting membranes, the attachment of the placenta being disturbed as little as possible, it was then forced through the membranes, when the feet were secured and brought down and the child delivered. The placenta came away without difficulty. The period that elapsed from the introduction of the hand to the delivery of the child, did not exceed ten minutes. The child had been dead for a considerable time, as shown by the slipping of the skin, and other signs of decomposition. The woman did not rally, and died two days after delivery.

4. Mrs. S——, aged 26 years, has generally enjoyed good health, mother of two children, has been troubled by frequent floodings for the last two months. On examination per vaginam, on September 9, 1863, the placenta was found attached to the right side of the cervix, extending entirely across the os uteri; the patient had lost much blood during the last 24 hours; ergot was administered yesterday, followed by slight labor pains; each pain, and also every effort to cough, occasioned a fresh gush of blood. The child was delivered by podalic version this morning at 9 o'clock; the child was still-born; the mother died from exhaustion approaching to syncope, two hours after delivery. The delivery was effected without difficulty, and during and subsequent to the operation, but little blood was lost.

5. Mrs. McK——, aged 37 years, mother of several children, of delicate health, was seen April 12th, 1865. She had flooded moderately several days ago, which was relieved by remaining quiet; last evening it returned with considerable violence, and has continued more or less actively to-day. There was little pain until 2 p. m., April 13; at this time she was found without pulse at the wrist, with cold extremities, and every indication of sink-

ing. Examination by the vagina revealed that the os uteri was dilated to the diameter of an inch, and dilatable; the placenta was implanted over the os uteri. The hand was passed through the cervix after overcoming considerable resistance, the child's feet seized, and the delivery accomplished. It was apparently a 6½ month child, and after gasping for a short period, it expired. The woman's prostration lasted for some time, but was attended with little subsequent hemorrhage. Reaction was secured by quietness, and a moderate use of stimulants, and in the end the patient made a good recovery.

6. Mrs. G——, aged about 30, mother of three children, two of them being twins; her last labor occurred about three years since. The services of the writer were requested, May 26, 1872. She had been under the care of Dr. Thompson for about a month, for repeated floodings. Dr. Thompson diagnosticated placenta prævia, and had applied all the ordinary means for arresting the hemorrhage; quietness and the tampon had been diligently applied. On examination, the placenta was found to be situated over the mouth of the uterus, chiefly on the right side of the cervix; the membranes being easily recognized at the left of the os; the orifice was open to the size of a silver dollar, and soft; the patient was considerably exhausted and somewhat feverish. Immediate delivery by turning was deemed advisable. By using a moderate amount of force, the hand was passed through the cervix, more force, indeed, was used, than would have been advisable in a less urgent case; the os gradually relaxed, however, and admitted the hand into the cavity of the uterus; the right foot was seized and brought down; the head being in the pelvis a short time after the body came away, but was finally delivered, and after a few minutes the child commenced breathing. The woman suffered for several days, from shock and loss of blood, but rallied well. From her own preference chloroform was not used; the child weighed 5½ pounds; finally, both mother and child did well.

Descent of Hand.—2 Cases.

7. Mrs. ——, aged 24 years, mother of 4 children, of good constitution, was taken in labor on the morning of August 4,

1854. A German midwife had charge of the case until 1 p. m., when the membranes ruptured, and the child's hand descended into the vagina. The writer was then requested to see the patient, the water having passed off half an hour before. Delivery by turning was decided upon, the hand was introduced into the uterus, the right foot secured and brought down, and the delivery completed in twenty minutes; the child was asphyxiated, but recovered in twenty minutes, and both mother and child did well.

8. In this case, a German woman, name unknown, of middle age, mother of several children, had placed herself under a midwife at the commencement of labor. When the membranes gave way, the child's left hand descended through the vagina, and appeared externally. Dr. John T. Walker was called in to render assistance, and sent for the writer. The hand was discovered external to the vulva, face anterior, and head in left iliac fossa. The water had now been drawn off more than an hour. After passing the hand into the uterine cavity, the right knee was grasped and brought down, the protruding hand returning spontaneously into the womb, as the feet descended. A male child was safely delivered, which commenced crying in a few minutes, and breathed well. Both mother and child did well.

[TO BE CONTINUED.]

CYSTIC DEGENERATION OF THE CHORION, WITH UTERINE HYDATIDS.

By L. Humphreys, M. D., South Bend, Indiana.

At 4 a. m. Oct. 24th, 1877, I was called to see Mrs. M., aged 29, who was supposed to be in premature labor, at about the sixth month of her utero-gestation.

The patient was having irregular uterine pains and very free hemorrhage, saturating cloths under and about her person, and a quantity of coagula was found near the vulva.

Removing the coagula, an examination per vaginam revealed the os dilated to the size of a quarter of a dollar, and within it

a spongy mass that appeared to the touch to be placental. The neck of the uterus was conical and about 1¼ inches in length. The hand upon the abdomen discovered the fundus considerably above the umbilicus, and the abdominal enlargement was about equal to that of the sixth month of gestation. No solid contents could be felt within the uterus through the abdominal walls; pressure revealed only a soft, yielding mass. I was unable to determine the nature of the case at this time, and proceeded at once to tampon the vagina; gave two fluid drachms of the extract of ergot, applied firm pressure over the fundus of the uterus, and awaited results. In 20 or 30 minutes the uterine contractions were increased, and the vaginal packing and a mass of hydatids, enveloped in a dark colored membranous sac, were expelled. The sac was about 3 inches in its short and 6 or 7 inches in its long diameter, was ruptured in passing the os and vaginal canal, and from it clusters of hydatids protruded. Their expulsion was accompanied and followed for a short time by alarming hemorrhage. Grasping the body of the uterus over the abdomen, the contractions of that organ could be distinctly felt, and in another half hour fully three pints of grape-like cysts were discharged, followed by a considerable quantity of coagula. The cysts were about the size of and bore a striking resemblance to pale green Malaga grapes. Some were amber colored and others white.

The hydatids were pediculated and attached by delicate membranous filaments, looking much like clusters of grapes. When the uterus had well contracted, indicating that its anomalous contents were expelled, the usual bandage was applied, and no unpleasant effects resulted. The lochial discharge, in character and quality, was that of natural parturition at full term. The secretion from the mammary glands was quite free for several days, requiring the use of artificial means to relieve them. The patient remained in bed ten or twelve days, and is now in excellent health. She possesses a remarkably fine physique, is 140 pounds in weight, symmetrical in body and limbs, temperament lymphatic.

Some authorities are of the opinion that uterine hydatids occur most often in women of a lymphatic temperament.

This patient had been married six years. About two years

ago she aborted at between the second and third months, and was troubled with frequent uterine hemorrhages for some weeks after leaving her bed. These ceased, only after the removal of the remains of a retained or adherent placenta, by her attending physician. When this last supposed utero-gestation began, she passed her second period without any appearance of menses. At the third month there was a slight uterine flow, and soon after this profuse hemorrhage set in, and continued at intervals of a week or ten days, with the frequent extrusion of large quantities of coagula. From the commencement of gestation, Mrs. M—— suffered from persistent nausea and vomiting, almost day and night, rejecting almost all food and medicine. For some time nourishment per rectum was the only means by which strength and vitality could be maintained.

From loss of blood and want of proper nourishment, the patient became decidedly anæmic and much reduced in strength. About two months prior to the time of my first seeing her, she visited friends in this city, leaving her home in Northwestern Michigan, and traveling by rail the entire distance. Soon after her arrival here, the stomach regained its functions, and her appetite became excellent, her strength and general health rapidly improved; in fact, she was quite restored to ordinary health, except as regarded the periodic uterine hemorrhages. This restoration of health and strength was most fortunate for the patient before the expulsion of the uterine hydatids, else in all probability she would have sunk, from exhaustion and loss of blood, if she had continued in her former anæmic condition. I may add, that in a practice of nearly forty years, with a fair share of obstetric business, the case here reported, is only the second of its kind occurring in my own observation. I saw one other in consultation, in the practice of another physician.

At a meeting held January 24th, the Medical Board of the Illinois Charitable Eye and Ear Infirmary, nominated Prof. Edmund Andrews as consulting surgeon, to fill the vacancy created by the resignation of Prof. E. Powell.

Clinical Reports.

NOTES FROM PRIVATE PRACTICE.

Extra-Uterine Pregnancy.

Mrs. R——, aged 26, a spare woman of medium height, married nine years; has never been previously pregnant; since the first establishment of her menses, she has occasionally had severe attacks of flooding, except during the last two years, since which time she has been quite regular, except for the interruption caused by pregnancy.

My attention was first called to her about the middle of September, 1876. She was then the subject of severe and persistent nausea and vomiting, and I was told her menses had failed to make their appearance at her last period. I diagnosticated pregnancy, and gave her oxalate of cerium and subnitrate of bismuth, by which these symptoms were relieved. She was left, however, with distressing indigestion; her food passed through the alimentary canal almost without change, and she became very much emaciated. My prescriptions for this were pepsin, and warm water baths followed by friction. These mitigated the symptoms to some extent, but she still had loathing of food, and almost every aliment distressed her. For constipation, she took carbonate of magnesia and clysters of soap, salt and water.

In January, 1877, she commenced complaining of pains in the right side, just under the floating ribs. This continued, with more or less severity until the 10th of August following. December 25th, she was taken with flooding, which continued to recur at intervals in spite of gallic acid, acetate of lead and refrigerants. About the 1st of March, the breasts began to enlarge, and by the middle of the month they were filled with milk to such a degree

that it flowed from the nipples profusely enough to wet her clothing.

The abdomen was not enlarged, but, owing to the great emaciation, was sensibly diminished in size, except in the region of the pains described above. In that locality there was a distinct prominence, or tumor, which was very sensitive to pressure. About the 1st of May, the patient was seized with an uncontrollable diarrhœa, which lasted, with varying severity, for two months. On the 26th of May, after great pain, a quantity of very offensive pus was discharged from the bowels. This continued to pass with every evacuation until the *debris* of the fœtus came away. Pains like labor pains commenced on the 9th of June, and lasted until the 25th of that month. The pains at that time increased in severity, one or two occurring every day. July 20th, a pain of very great severity took place, and lasted as much as thirty minutes, and caused the patient to faint. From that time there was constant pain until August 1st, when a fœtal rib was passed from the rectum. On the 2d of August, two ribs and a femur were expelled; and on the 4th of that month most of the trunk. On the 10th, the skull bones, three ribs and a femur were expelled. From that time all pain ceased, and the patient became comfortable. Her appetite returned, her strength improved, she gained flesh—in fact convalescence from her protracted suffering was at once inaugurated. Her diet at this time consisted of beef tea, chicken broth, farina, rice, milk, broth and meat of wild birds, with brown bread. She took clysters of carbolic acid and glycerine. She is now taking the elix. ferri et calcis phosphatis with strychnia and fluid extract of calisaya.

The following is the measurement of some of the expelled bones: The parietal bone measures two inches in length by one and three-eighths in breadth; the frontal is one and three-quarters inches by one and three-eighths; the occipital, one inch by one and a half; the femur is one and three-quarters inches long without the apophyses, which are gone. I think the perforation of the intestines occurred in the ascending colon.

Respectfully,

M. H. VAN RIPEN, M. D.

KANKAKEE, ILL., Dec. 1, 1877.

Salicylic Acid in Pneumonia.

I was called on the morning of Aug. 24th, 1877, to see Mr. H., a vigorous young man about 25 years of age. He stated that on the previous day he had taken a good deal of exercise on horseback, had been caught in a heavy rain in the evening, and that immediately after getting into bed he had been attacked with a very severe chill. He suffered all night with general aching and pains, more especially in his right chest. I found him in the following condition: Face very much flushed, skin hot and dry, pulse 120 beats per minute, tongue coated and dry, some pain in right chest and shoulder, cough very distressing, dyspnœa, scanty expectoration of bloody mucus, bowels constipated, urine scanty and high colored, distaste for food, and thirst. Percussion elicited general dullness over the right chest; auscultation revealed general crepitation, and slight rasping over the inferior posterior region of the same side. There was also crepitation in the lower left lobe. As I had the misfortnne to break my thermometer a short time before, the temperature was not taken, but was evidently much exaggerated. The diagnosis was; an unusually severe case of pleuro-pneumonia, and the prognosis unfavorable. My first impulse was to perform venesection, but accidentally putting my hand in my pocket I discovered there a a bottle of salicylic acid; and the idea occurred to me to employ it. I had previously witnessed its effects in the febrile state, and in the inflammation of acute rheumatism. I therefore ordered 20 grains of the acid to be taken every two hours till I should see him again, the first dose to begin at 9 o'clock a. m. My plan of mixing and administering salicylic acid is as follows: It is placed in a tablespoon half full of water, and sweet spirits of nitre added, drop by drop, till the acid is moistened. The patient swallows a mouthful of sweet milk, then the acid, and finally some more milk. By this means very little complaint is made of a bad taste, or of irritation of the mouth and pharynx. At half-past 7 p. m. the cough, pain and dyspnœa were not much relieved, the bowels had not moved, and there had been no discharge of urine, but the tongue was moist, expectoration more free, sputa very bloody, free diaphoresis. He had taken five doses of the acid and no nourishment except the milk with the

powders. The following powder was given at night: Calomel, grs. v.; morphia sulphate, grs. ¼; sodic bi-carbonate, grs. x.; the acid once in three hours.

Aug. 25th, 8 a. m.—Patient had perspired profusely all night and rested well after taking the powder; at 10 o'clock very little cough or expectoration, no blood, tongue moist and almost clean, lungs expanding properly, pulse natural in frequency but very feeble; much prostration. The kidneys acted but little, and this I attributed to the excessive sweating, as the blanket over him as well as the sheet beneath were fully saturated. The bowels had not moved. But one dose of the acid taken since the last visit, and no nourishment. To have castor oil ℥ i., oil of turpentine ʒ ss. at once; milk and beef tea *ad libitum;* and after an operation, grs. x of the acid every four hours.

P. M., 7½ o'clock.—Patient still sweating, but not so freely; has perspired continuously for over twenty-four hours. Bowels and kidneys have acted well, appetite improving, has taken two powders, and seems well but weak. The powders are discontinued, and aromat. spts. of ammon. ʒ ss. given every hour or two when awake, with food.

Aug. 26th, 8 a. m.—It is now just forty-eight hours since the first visit, and about fifty-eight hours since the onset of the disease. The patient has taken in all one hundred and forty grains of salicylic acid, calomel grs. v., morphia gr. ¼, sodic bi-carbonate grs. x. The patient is dressed, has taken later a good breakfast, and is quite comfortable. The ammonia was given simply as a gentle stimulant.

Is not salicylic acid an abortive in pneumonia?

L. L. SILVERTHORN, Charleston, Ill.

QUID SPECULUM POSSIT.—One of our most skillful practitioners recently had occasion to employ the vaginal speculum in the examination of a lady. The exploration finished, he was about to withdraw the instrument, when he felt a light touch upon his shoulder. "Excuse me, doctor," said the patient, "I have long suffered from pain in the stomach. *While you are there,* can you not tell me what is the matter?"—*Lyon Medical.*

Society Reports.

Meeting of Æsculapian Society of Wabash Valley.

The thirty-first annnal session of the Æsculapian Society of the Wabash Valley was held at Paris, Ills., on the 21st and 22d days of November, 1877.

The Society was called to order at 10.30 a. m. by the President, Dr. G. T. Ragan, of Neoga. Prayer was offered by the Rev. E. D. Wilkin, after which the society listened to a brief address of welcome from Dr. Wm. Massie in behalf of the local physicians.

At 2 p. m. was presented the report of the Chairman of the Committee on Obstetrics (Dr. O. C. Tobey, of Westfield) on post partum hemorrhage and rupture of the perineum.

The histories and treatment of several interesting cases were detailed. The paper was discussed by Drs. Rowe, Mosely and Mitchell.

Dr. J. L. Polk, of Arcola, next read a paper on post partum hemorrhage. The author held that ergot administered immediately after the birth of the child and continued for a time was a reliable prophylactic of hemorrhage. The paper was discussed by Drs. Massie, McKown, Barton, Cannon and others. Dr. Barton approved of the treatment advocated in the paper, but would give much larger doses of ergot than the writer recommended; would not hesitate to give four drachms, at a dose, of the fluid extract should the emergency require energetic treatment.

At 7.30 p. m. Dr. G. T. Ragan delivered his valedictory address at the M. E. church.

At the regular evening session Dr. Geo. Calloway read a paper on pneumonia and Dr. L. L. Silverthorn reported a case in which all the symptoms of pneumonia yielded in 48 hours after the exhibition of 20 grains of salicylic acid every two hours.

The election of officers for the ensuing year resulted as follows: President, Dr. J. M. McKown, of Arcola; Vice President, Dr. L. L. Silverthorn, of Charleston; Secretary and Treasurer, Dr. C. B. Johnson, of Tolono; Board of Censors, Drs. Baum, Barton, A, T. Steele, W. M. Chambers, jr., and Polk.

On Thursday morning, November 22, Dr. J. P. Worrel made a report on the treatment of the more common diseases of the ear.

Dr. James, of Greenup, presented an interesting pathological specimen—a fœtus obtained post mortem after extra-uterine pregnancy of three years standing.

After the appointment of the usual committees and the transaction of some miscellaneous business, the society adjourned to meet at Mattoon, Ills., on the last Wednesday in May, 1878.

CHAS. B. JOHNSON, M. D., *Sec'y.*

TOLONO, ILLS.

Medical Society of the District of Columbia.

The Medical Society of the District of Columbia assembled Thursday night, Dec. 20, at Marini's Hall, which was well filled The occasion was to celebrate the sixtieth anniversary of the society.

Dr. Toner, as chairman of the committee of arrangements, in announcing the programme for the evening, made, in substance, the following remarks: The Medical Society of the District of Columbia was founded September 26, 1817, and this meeting therefore represents the 60th anniversary—a period of time which represents two generations of human life. Our first charter was obtained from congress in March, 1819. The District then embraced the original ten miles square, with the three cities, Washington, Georgetown and Alexandria, the whole population being but little over 30,000. There were twenty-one physicians named in this charter, all of whom are now deceased, and they included nearly all the medical men then practicing in the territory named. I use the term our first charter, because we are now acting under a revised and amended act of incorporation granted July 7, 1838. In our present charter there are named twenty-two physicians, but the nearly forty years that have supervened since that time, have removed from earth all but

seven of our honored and worthy representatives. The names of those living are Doctors J. B. Blake, Joseph Borrows, H. F. Condict, J. C. Hall, Benjamin King, Harvey Lindsly, and Noble Young. Of these, two—Drs. J. B. Blake and J. C. Hall —have been physicians for over fifty years; and Drs. Joseph Borrows, Harvey Lindsly and Noble Young, will have been physicians fifty years next March. All these physicians are as familiar to the citizens of Washington as household words, and have been particularly blessed with length of days and professional usefulness, beyond the average allotted to medical men in the United States; the average life of physicians being but about 58 years. The average term of professional life in America is 32½ years; and the average age at which physicians commence to practice, is between 25 and 26 years. From the formation of our society in 1817 to the present, there have been about 450 names enrolled as licentiates of this society. Of these about 180 survive, and are more or less actively engaged in practice. Without further prefatory remarks, I proceed to the discharge of the agreeable duty assigned to me of presenting to you an old and highly esteemed member, who has consented to be the orator of the evening—Dr. A. Y. P. Garnett.

Dr. Garnett opened his able and interesting address with a reference to the rapid progress of the science of medicine, due mainly to the organized efforts of the profession, particularly such associations as this. He gave a rapid glance at the history of medical practice and schools of medicine, ending with a highly interesting account of the straits to which the Confederate surgeons and physicians were reduced during the war by the enforcement of the Federal blockade, which partially deprived them of their supplies. The physicians cut off from their accustomed vegetable drugs, substituted indigenous plants with great success. He complimented them for successfully battling with the emergency, and also complimented the surgeons for devising new methods of practice, made necessary by the blockade, particularly Prof. Campbell, for a valuable discovery which he described. He closed with a tribute to the present high character of the profession generally, and the improvements in the science of medicine due to this.

Editorial.

THE SURVIVAL OF THE FITTEST.

That there are more physicians to each one thousand of inhabitants in this country than in any other, is a fact which is challenging the attention of those not specially interested in statistics. And the end is not yet. There is no immediate prospect of a decrease in either the number or capacity of the institutions from which the ranks of the profession are recruited. On the contrary, since the causes which have operated to produce the fecundity of these institutions are still active, we may even look for their further development in numbers and capacity. A constantly increasing stream of young graduates flows from the door of each, eager to test for themselves the question whether there is room for them in the professional world.

The radical differences between these institutions are known to all medical men. Some of them we recognize as qualified to properly educate in science; many are unquestionably not thus qualified. The latter class comprises not only several of the colleges labelled "regular," but also those entitled "homeopathic," "eclectic," "physio-medical," "physio-eclectic-medical," "hygienic," and whatever other names avarice and folly may have suggested, in order to disseminate delusion, or, what is even worse than delusion, a system of half-truths.

Nor is this all. The particular branch of American industry to which we refer, has never been protected from competition with the "pauper labor of Europe," by the imposition of a discriminating or restrictive tariff. To these shores the man of foreign medical education and birth is free to come, here to engage in practice side by side with his home-made professional

brother, and to still further diminish the assuredly limited fund upon which they must all depend for sustenance. Canada, England, Ireland, Germany, France, Sweden and Norway have medical representatives in most of our towns and country places, here and there, in really large numbers, who hope to receive support from those of their own nationality, and, if possible, to secure a still wider patronage.

The causes operating to produce this undue multiplicity of physicians in America do not require discussion, they are too well understood. It is true that, of late, a widespread financial depression has choked the avenues of trade, made commercial enterprises unprofitable, and thus contributed to crowding the benches of medical schools with professional students. But there is a cause of greater significance. It lies in the fact that the vast majority of medical schools in the United States are destitute of a proper foundation, as well as of national and State support. Had they depended for their sustentation upon such sources, self-interest would have impelled their various Faculties to maintain such a standard as would have discouraged an excessive number of applicants for their honors. But self-interest has operated in a precisely opposite direction. The schools depend for their support upon the fees which are paid to professors, a class of men actively engaged in professional pursuits. The income of each school has been proportioned to the number of its graduates, and in some instances the remuneration has been large. The schools have been thus directly interested not so much in the task of elevating the standard of medicine as in securing the largest number of names on the roll of students, and a correspondingly large financial exhibit.

The stream can rise no higner than its source. The mass of medical men in the country have become such on leaving the portals of these same institutions, and naturally entertain for them the somewhat tender regard of an alumnus for his alma mater. Though they greatly outnumber those who are engaged in the task of still further crowding their ranks, it does not seem to have occurred to them to exert, as a body, any restraining influence upon their too fertile mothers, by insisting that they themselves should have a voice in deciding who should be allowed

to compete with them in the struggle for a share of the family loaf. Even should they attempt this, it is doubtful if they could succeed for a moment in staying the course of each annual gestation and delivery.

All are interested in asking what the result of this is to be in the future. The immediate results are known to too many. The college professor, whose eloquence and learning have long increased the attendance upon his classes, and thus contributed to putting money in his purse, finds some of his quondam pupils settling down on either side of his door, and disputing with him quietly, gradually and yet inevitably, inch by inch, the ground which was once his own. A large number of the fledglings, it is true, early or late abandon the profession, but many remain, striving for a success which never comes, their hearts sinking as hope is long deferred. Others, the favorites of rare circumstances or fortune, sorrowfully regard those who are gradually forced downward, till they drink the dregs of dissipation and debt. Some become the shabby-genteel dependents upon the resources of their friends. The fate of a smaller number is indeed wretched. A few years ago, a well-educated and highly intelligent young physician in New York city, who had taken a special degree in Vienna, blew out his brains in despair over his remediless condition in life. These are some of the results. They who achieve a great success (and many, we are pleased to say it, do this), simply tread great obstacles under foot.

We use the present tense advisedly, for the big bonanzas of practice have long been pre-empted, and the royal roads to honor and wealth in the profession are crowded thoroughfares, where wearied toilers jostle each other by the way. The time is forever passed when the half-educated professional man in this country can become eminent from the force of exceptionally favorable circumstances or the absence of keen competition.

What, we repeat, will be the outcome of all this? If the answer to that question was impressed deeply upon the minds of the students and professional men of this country, it would be well for all.

When the operation of natural laws is untrammeled, the result is always beneficial to mankind, even though one class suffer.

The selfishness of the human family is the key-stone of commerce and civilization, and the selfish instinct of the corporations we call medical schools will in the end produce a body of medical men in this country that have never been equalled, and never could have been graduated from universities depending upon endowments. A desperate struggle for existence will soon, if it does not already, await each candidate for professional success, and in that struggle only the fittest will survive. He who can best cut for stone, treat a fever or deliver a woman in perilous travail, will surpass him who cannot do these things as well. And, again, in every community, of those capable of doing these things equally well, he who has the broadest education, the best trained intellect and the most correct judgment will bear the palm. It is said that "blood will tell," and so, indeed, in the long run, will education, training, skill, hospital experience, and fertility of resources in emergencies. They will tell in the struggle for professional existence. Let no man suffer himself to become blind to his deficiencies in these matters.

It has been said that the greatest men the world has ever seen only surpassed by a little the great men around them. Italy had never produced so many masters in art as in the day when Raphael portrayed in glowing colors his wonderful conceptions, and it is probable that Italy never saw so many indifferent and inferior works of art as in that day. In what numberless directions was American ingenuity vainly reaching when two men, each ignorant of the other's idea, simultaneously invented the sewing machine!

When physicians constitute one per cent. of the adult population of this country (and they will soon be represented in that ratio, if the present rate of increase be maintained), the great among them will be great indeed. The standards of the old world will then be rapidly reached and surpassed. There never was another hour when medicine attracted as much attention in this country. At the head of its various departments stand eminent Americans, whose position was never so fully recognized abroad as at present. There are also probably more half educated medical men in the land than ever before in this or any other. American medical literature was never so abundant as

now, nor have its best representatives been ever so valuable and its poorest so worthless.

The difference between the red-streaked pole of the barber-surgeon of old England and the title of the Fellow of the Royal College to-day, is a measure of the distance between the lowest and the highest of us; between the physicians of the present and the future. The process of natural selection is evidently to continue till, in the struggle for existence, the weakest go to the wall and the fittest survive. And of the survivors shall come kings among men.

THE BLADE OF THE WESTERN LANCET.

The *Western Lancet* of last month expresses, in a passionate and personal editorial, its anger at the discovery, in our December issue, of an unfavorable review of Prof. Toland's Lectures on Surgery. It is claimed that the Chicago author was unfair, malicious and untruthful, and that he has shown that he was not a gentleman.

We beg our readers not to conclude, from the fact of our reference to this exhibition of feeling on the part of our little contemporary, that we are about to engage in a war of words with it, or with any other publication. The JOURNAL AND EXAMINER will never condescend to personalities of this sort. The JOURNAL AND EXAMINER is not at present attempting to rival the style of the "*Eatanswill Gazette.*" We are merely glad of the occasion, thus presented, for explaining our position with reference to the general subject of reviews and reviewers.

The editors of this journal do not hold themselves responsible for the views expressed either by their contributors or reviewers. But they have a duty to perform both to their subscribers and readers, their critics, and the authors whose works are submitted to them for comment. This duty the editors solemnly pledge themselves to perform, in the most full, fearless and impartial manner possible. When this cannot be done, and the review department of this journal degenerates into a collection of book-publishers' notices, we propose to resign the management into the hands of others.

To our readers and subscribers, we intend to present the most faithful criticism of each publication that it is possible for us to obtain, praising all real excellencies, denouncing everything false, superficial and worthless.

We shall also interpose to save our reviewers from all improper criticism. We can assure the *Western Lancet* that our books are distributed to none save those whom we know to be gentlemen of good standing and professional responsibility, capable of impartial and just criticism. Our readers are interested in seeing the reports of such men, but they do not in the least care to read what others think of such reports. We therefore decline all criticisms of critics, drawing the line at this point in order to avoid a descent into the devious paths of personal journalism.

To return to the particular review of which the *Lancet* complains, we admit at the outset that in proof-reading an error occurred by which the word *strength* was misquoted, so as to read *length*. For this, we are glad to apologize, and express our regret. In every other allusion, if the precise words of the author have not been quoted, his ideas have been reproduced in unequivocal terms. We have never as yet succeeded any better than our contemporaries, in having the *ipsissima verba* of each monthly issue absolutely correct. But the *Lancet*, in its hot zeal for Prof. Toland, claims that the error admitted was a willful perversion and misquotation, and that this is simply one of many other instances, in the same review.

We deny in the most emphatic manner that our critic was guilty of the very grave offense here charged. In order to establish the fact, it is merely necessary to return to the book itself and some of its other reviewers. A short time since we received by mail an extract from one of the San Francisco newspapers, containing a column or two of the most fulsome adulation of Prof. Toland and his book, ostensibly written by a layman. We do not know whether this was mailed to us by the editor of the *Lancet* or some other of Prof. Toland's friends and admirers, but we know that this is not the source from which American medical men generally receive their impressions of similar books.

Certainly few would dare to charge that the reviewer of the same volume for the *American Journal of the Medical Sciences*

of January, 1878, had been guilty of the identical unfairness, untruthfulness and willful misrepresentation which is laid at the door of our critic. And yet the opinions of the two gentlemen in Chicago and Philadelphia are singularly similar. According to the latter, the teaching of the book under consideration is "meagre to starvation;" no mention is made in it of atropia in the treatment of syphilitic iritis; pyæmia and erysipelas are not discussed; antiseptic surgery ignored; Buck's extension apparatus, as well as Smith's and Hodgen's splints, not mentioned; Esmarch's method, Pacquelin's knife and the galvano-caustic appliances not referred to; cases are introduced rather on account of the prominence of the patient than of the nature of the accident or disease. The author is charged with egotism and ostentatiousness; and the critic concludes by admitting his failure to find any reason for the publication of the work.

If the editor of the *Western Lancet* had read the review which immediately preceded that which gave him such offense, he would have seen that even the Transactions of the Illinois State Medical Society, which might have looked for the most flattering of encomiums in the home of its best friends, received at the hands of a reviewer no greater favor than did Prof. Toland's lectures.

We believe that we have said enough to refute the charge of willful misrepresentation in this case. We have no question as to Prof. Toland's personal and professional worth; it is his book which we cannot recommend to medical purchasers who read the columns of this journal. We think that the evidence justifies such a decision. But we are fully aware of the further fact, that neither the medical journals of the Pacific Coast, nor of Chicago, nor of Philadelphia, can decide the fate of the volume. It will stand or fall by its own merits or demerits; and time will surely pronounce sentence upon it.

ONE of the worst instances of depravity on record (we refer to the *New York Medical Record* of Dec. 22, 1877), is announced in that periodical in the following terms: "A surgeon was recently indicted at the Northampton Assizes (England), for rape *while having a tooth extracted!*"

Correspondence.

THE AMERICAN ACADEMY OF MEDICINE.

PITTSBURGH, PA., Dec. 31, 1877.

To the Editor of the Medical Journal and Examiner:

In the December number of your most valuable journal appears an article from the pen of Dr. M. W. Wood, U. S. A., on a "Proposed Plan for a Medical Reform."

The plan is a good one, but it is not my object to examine it in detail at this time. My object is to call attention to the American Academy of Medicine, by asking you to publish the following articles from its constitution, also the notice as to manner of procuring further information in regard to the organization.

Very truly yours,

R. STANSBURY SUTTON.

ARTICLE I.

Name of the Society.

This Association shall be known as the American Academy of Medicine.

ARTICLE II.

Objects of the Society.

The general objects of the Society shall be the extension of the bounds of medical science; the elevation of the profession, etc., etc.

The special objects of the Society shall be:

1st. To encourage young men to pursue regular courses of study in classical, scientific and literary schools of the highest grade, before entering upon the study of medicine.

2d. To bring together into closer relations, the alumni of such institutions, and to perpetuate their names in the history of the profession.

3d. To secure recognition abroad by medical societies of the highest standing.

ARTICLE III.

Members of the Society.

SEC. I. The Society shall consist of active, corresponding and honorary members.

SEC. II. The active members of the Society shall be alumni of respectable institutions of learning, classical, scientific and medical. They shall have conferred upon them by such institutions:

1st. The degree of Bachelor of Arts, after a regular course of study extending through a period of time not less than five years.

2d. The degree of Master of Arts in accordance with the usages of such schools; and,

3d. The degree of Doctor of Medicine after a course of study not less than three years, under the direction and instruction of preceptors and professors.

SEC. III. In the case of those who have pursued regular courses of study in foreign universities in which the degree of Doctor of Medicine covers the ground of a thorough academic course, no other degree shall be required.

SEC. IV. Every applicant for membership shall have an experience of three years in the practice of medicine in one or more of its recognized departments, and shall have a good moral character.

ARTICLE IV.

The Officers of the Society.

SEC. I. The officers of the Society shall be a president, four vice-presidents, a recording secretary, a corresponding secretary, and a treasurer, who shall be elected annually, etc., etc.

To secure in the future a higher standard of qualifications than is herein mentioned, and to encourage all institutions of learning in our country conferring degrees, to raise their standard

to a level with that of European institutions, the following article is presented for special consideration:

ARTICLE V.

Council of Equity.

SEC. I. The president, assisted by the vice-presidents, shall appoint a Council of Equity, consisting of.....active members, alumni of those institutions whose courses of study are the most extensive and thorough, etc., etc.

SEC. II. To this council all applications for membership shall be referred after.....charter members have been enrolled. They shall report the names of those only who have the requirements of the constitution. To this council all questions of ethics shall also be referred, and their decision shall be final, etc., etc.

The treasurer, Dr. E. H. M. Sell (51 W. 35th street, New York), will send to any one by mail the Transactions of the Academy in separate parts, this year on receipt of the price of the same in P. O. order or stamps as follows:

Constitution and By-Laws..... 15 cents.
President's Address (1877) and Constitution and By-Laws..... 50 "

We publish the following communication from an esteemed correspondent with great pleasure, and wish that a still wider exception might be made to the general charge, contained in the editorial referred to, against the system of appointments to civil office:

SAN FRANCISCO, Jan. 8, 1878.

To the Editor of the Journal and Examiner.

SIR:—In a very timely editorial in the January number of the *Journal and Examiner*, you make the following statement: "In the marine and pension services, surgeons and assistant-surgeons become such by political preferment." Referring to the former service, I beg to inform you that since the reorganiza-

tion of the Marine Hospital Service under the able administration of the Surgeon-General, Dr. John M. Woodworth, every applicant for appointment has been obliged to undergo a rigid examination by a Board of Surgeons, with reference to his professional and physical qualifications. The examination, which extends over a period of four days, is both written and oral, embracing all the branches of medicine, together with a clinical examination, both medical and surgical at a hospital. As the examination is strictly competetive, the candidates are appointed according to the highest percentage. No appointment is made to a higher grade than assistant surgeon in the Marine Hospital Service, and all vacancies which occurr in the grade of surgeon, are filled by promotion of assistant surgeons, on the ground of merit and fitness only.

In justice to our service, you will oblige me by affording this communication a space in your valuable journal.

Very respectfully,

EDMUND J. DOERING, M. D.

Asst. Surgeon U. S. Marine Hospt. Service.

CLINTON, ILL, January, 1878.

To the Editor of the Journal and Examiner.

MAY DEAR SIR:—I have thought the enclosed scrap, taken from the *Pittsburgh Gazette*, of July 7th, 1818, might be of sufficient interest to deserve a place in the JOURNAL AND EXAMINER.

Respectfully, C. GOODBRAKE.

INTERESTING DISCOVERY.

In the history of medicine, since the discovery of the circulation of the blood by Dr. Harvey, we have not heard of any of equal importance, except a discovery lately made in England by Sir Everard Home, which will most probably overturn the whole of the present practice in medicine.

It has been a prevailing idea that a drop of any fluid introduced or injected into any of the veins produces an immediate

coagulation of the blood; but Sir Everard Home has ascertained by repeated experiments that medicines directly injected or introduced into the veins produce their effects more rapidly, with more benefit, and with less injury to the system than when they are swallowed and then pass from the stomach into the circulation.

Sir Everard Home has ascertained not only from experiments made upon himself, but upon many others, that a *vinous infusion* of the *colchicum autumnale* or *meadow saffron* injected into the vein of the ankle or the leg, will cure the most violent gout. Sir Everard states that he completely recovered from a most violent attack of the gout in less than twenty hours by injecting into the circulation sixty drops of this medicine.

Sir Everard mentions that infusions of ipecacuanha and jalap injected into the jugular vein, produced their respective effects of vomiting and purging much more rapidly, and with more ease to the patient, than when taken by the mouth.

An infusion of rhubarb, when injected, causes a profuse flow of urine. In short, according to the experiments of Sir Everard Home, all medicines whatever act better, and are less injurious to the constitution, when injected into the veins than when swallowed by the mouth.

Although the reputation of Sir Everard Home in the science of medicine is of the first rank, yet we would wish to have more satisfactory evidence of the effect of his practice before we should recommend a trial of it. We have no doubt that all those sciences immediately connected with the animal and vegetable kingdoms are yet in their infancy, and that great improvements will be made before the *lapse of many years*.

PETER. INTEL.

THE attention of medical practitioners in this State, is called to the fact that the Illinois Board of Health has recently issued new blank forms, for the purpose of reporting births (premature and at term), deaths, and cases of contagious disease.

These blanks require more details of fact than the old ones; and should be sent, when filled out, to the office of the county clerk.

Reviews and Book Notices.

HOSPITALS: THEIR HISTORY, ORGANIZATION AND CONSTRUCTION. By W. Gill Wylie, M. D. New York: Appleton & Co., 1877.

In a preface of two pages, the author discloses the source of the inspiration which prompted him to write the Boylston prize essay for 1876. During his residence as a medical officer in Bellevue Hospital, he had ample "opportunity for seeing the bad effects of poor nursing and defective construction on the welfare of patients." "The sanitary condition of the hospital was shocking," etc. His subsequent acquaintance with less ancient and more pretentious buildings (e. g., the elegant New York Hospital, the name of which seems to enrage Dr. Wylie, as the classical red flag infuriates the pugnacious bovine), has not materially changed his earlier impressions; hence the present essay.

The first chapter relates to the "history of the origin and development of hospitals," a somewhat rambling and incoherent mixture of history and tradition, culminating in the conclusion that "the credit of the origin of the first hospitals is not due to medicine, but to religion."

In the second chapter, entitled "the relations of hospitals to pauperism," are tersely stated some forcible, though by no means original, objections to charity hospitals as they are. That they tend to foster idleness, helplessness, and their natural results, pauperism and crime; that the unrestricted offer of gratuitous relief removes the stimulus of necessity which prompts the average mortal to provide against sickness, is well known to all connected with large hospitals or dispensaries. In support of this position, our author cites the official reports of the New York

charities for 1875. In a city of 1,000,000 inhabitants, $10,000,000 were spent in charitable reliefs; 6,000 hospital beds were accessible to all; over 300,000 persons (?) received gratuitous medical advice and medicine. "The truth is, the majority of our hospitals, as they are at present managed, are liable to do more harm than good."

Our author suggests that it would be far more creditable and humane if the money which is so lavishly expended in relieving the sufferings of the poor, were devoted, in part at least, to the removal of the cause of those sufferings. Since many, probably a majority, of the diseases treated in hospitals can be traced to the ignorant disregard of sanitary laws manifested in the homes and habits of the poor, sanitary education could and should be substituted,in part at least, for indiscriminate alms-giving. Dr. Wylie thinks, further, that on sanitary grounds alone, most of our existing hospitals are inferior, as sick rooms, to the homes of the poor, however humble the latter may be.

The third chapter—"organization and management"—is prefaced by the remark that "more than four-fifths of all that we have been able to find written on hospitals is mainly about their construction. Many times the results of carelessness on the part of the doctors, unwise and fraudulent management, poor, untrained nurses, bad food, and general uncleanliness, have been unjustly attributed to faults in the plan of construction." He hints that results would be more satisfactory if science had a larger, politics and social station a smaller, representation on boards of hospital managers; if superintendents were invariably medical men (the skeptic is respectfully referred to our Cook County Hospital); if ladies were associated with gentlemen in the general inspection of the hospital work; and if training-schools for nurses were more generally established.

Five chapters are devoted to the construction of a civil hospital, discussing in detail the character of the buildings, arrangement of the ward and its appurtenances, warming and ventilation, furniture, isolation wards, mortuary, drug-room, etc. The author considers it proven that the one-story pavilion plan is least objectionable; that the wards devoted to contagious and infectious diseases should be destroyed at short intervals; that wards should

contain not more than twenty-five beds each; that at least 1,800 cubic feet of space, with an area of 124 square feet, should be allowed each patient.

Another chapter presents some Utopian ideas on the relation of the medical school to the hospital. The last section discusses "hospital buildings now in use," containing plans and descriptions of the most notable examples in Europe and America.

As a literary work, the book is a failure; the style, while sufficiently plain, is not sufficiently terse and accurate for scientific exposition. The evident desire to make a "complete treatise" on the subject, has encumbered the book with considerable useless lumber. Yet there is evidence of fair experience, close observation, ripe scholarship and original thought. The essay is everywhere stamped with the impress of the author's individuality, and though undue prominence is given to certain pet ideas as to the details of construction, the views of others are fairly stated and plainly criticised.

The book may be read with much interest and profit, not only by hospital managers and public sanitarians, but by general practitioners. W. T. B.

CYCLOPÆDIA OF THE PRACTICE OF MEDICINE. Edited by Dr. H. Von Ziemssen, professor, etc. Vol. XV. DISEASES OF THE KIDNEY. By Prof. Carl Bartels, of Kiel, and Prof. Wilhelm Ebstein, of Göttingen; translated by Reginald Southey, M. D., Oxon, of London, and Robert Bertolet, M. D., of Philadelphia; Albert D. Buck, M. D., editor of American edition. New York: Wm. Wood & Co.; pp. 796.

This volume opens with biographical sketches of the authors, Carl Bartels, of Kiel, and Wm. Ebstein, of Göttingen. The former treats of the structural diseases of the kidneys and the general symptoms of renal affections, while the latter considers more particularly affections of the renal pelvis, ureter, diseases of the connective tissue of the gland and anomalies in the position, form, and number of the kidneys.

Prof. Bartels discusses the subject of albuminuria very thoroughly, and says that even at the present time the different views held by Bright, Prout, Graves, and others, are not recon-

ciled, and while some physicians consider the term albuminuria, *as an equivalent for kidney* disease, there are others who attribute all such cases to an altered condition of the blood.

He divides the cases of albuminuria into two classes: first, those in which it is merely the accompaniment of other acute disease, dependent upon secondary disturbance of the circulation through the kidneys; and, second, that class of cases where albumen in the urine is the prominent symptom, due to the fact that the kidneys have suffered an alteration in structure. Passing to the consideration of the consequences of an imperfect depuration of the blood in renal disease, he discusses the different interpretations which have been given to the series of symptoms to which the term uræmia is applied. He attributes our inability to discover the essential nature of uræmia to the circumstance that our attention has been chiefly devoted to experiments upon animals instead of to clinical observations. After disproving the theory that the symptoms of uræmia are due to carbonate of ammonia in the blood, and showing that the accumulation of urea is not a necessary factor, he comes to the conclusion "that the symptoms are all caused by some disorder of the urinary secretion, and that the title of uræmia is rightly attached to them."

He calls attention to the marked tendency to inflammatory affections exhibited by patients who have kidney disease, and says that these inflammatory complications occurring in other organs, are the cause of death more frequently than dropsy, uræmia and apoplexy reckoned together.

Under the term, the diffuse diseases of the kidneys, he devotes nearly four hundred pages to the consideration of those diseases, which have been grouped together under the title of Bright's disease. Prefacing this with an interesting historical sketch, he says that "his clinical experience and pathologico-anatomical investigations," have led him to distinguish the following distinct processes:

1st. Active and passive hyperæmia.

2d. The acute and chronic parenchymatous inflammation of the kidneys.

3d. The renal affections of cholera.

4th. Intestinal inflammation producing the contracted kidney.
5th. Amyloid degeneration of the kidneys.

He divides the causes of acute nephritis into two categories: the first embraces all those causes where certain specific noxious substances are carried by the blood to the kidney; and the second, those causes which act upon the vessels of the kidneys, and upon the circulation of the blood through them so as to favor inflammatory changes. Under the head of acute nephritis, he considers the nephritis of pregnancy, but, after refuting all the explanations formerly advanced as to its mode of origin, confesses his inability to furnish an explanation of his own.

Next to chronic suppuration, he mentions marsh miasm as a decidedly frequent cause of chronic parenchymatous nephritis, while, in opposition to the opinions of a great many physicians, he does not think the long-continued use of mercury in syphilis, or that alcoholic excesses can be charged with being the cause of it; and in his chapter on renal cirrhosis he is equally emphatic in his protest against the view that the abuse of spirituous liquors favors the development of the genuine contracted kidney. He expresses strongly his belief that genuine renal contraction, the third stage of Bright's disease, is not preceded by an inflammatory swelling of the organ.

Prof. Bartels concludes his part of this volume with an account of amyloid degeneration of the kidney, which he considers the local manifestation of a general constitutional disease.

Prof. Ebstein, in the first part of his section, considers the traumactic, idiopathic, pyæmic and metastic forms of renal inflammations which lead to the formation of abscesses. He then describes pyelitis and pyo-nephritis in the same chapter, as the extension of the inflammation from the pelvis to the renal parenchyma very frequently occurs.

He follows with chapters on tumors of the kidney, foreign bodies in the kidney, animal parasites of the kidney, and, lastly, anomalies in position of the kidney and diseases of the renal vessels.

In referring to the movable kidney, he says that the statement made by Rayer that the female sex is particularly liable to this anomaly has been completely verified. Prof. Ebstein attributes it

to the over distention of the abdominal walls, which occurs after frequent pregnancies, rather than to tight lacing.

This volume contains a vast amount of information, and is equal in excellence to any of those preceding it. H. H.

CYCLOPÆDIA OF THE PRACTICE OF MEDICINE. Edited by H. von Ziemssen, Professor of Clinical Medicine in Munich, Bavaria. Vol. XVI. Diseases of the Locomotive Apparatus and General Anomalies of Nutrition, by Prof. H. Senator, of Berlin; Prof. E. Seitz, of Giessen; Poof. H. Immerman, of Basel; and Dr. Birch-Hirschfeld, of Dresden. Translated by E. Buchanan Baxter, M. D., Lond., of London; John Todhunter, M. D., of Dublin; Godfrey Aigner, M. D., and Frank P. Foster, M. D., of New York; and Henry P. Bowditch, M. D., of Boston. Albert H. Buck, M. D., New York, Editor of American Edition. New York: Wm. Wood & Co. 1877.

This translation of the great German work is approaching its termination by degrees. Only five more volumes yet await publication.

The volume just issued is devoted to the non-surgical diseases of the locomotive apparatus, and to general anomalies of nutrition.

The article on rheumatism, written by Senator, is, perhaps, one of the least satisfactory in the whole Cyclopædia. The author uses the term rheumatism as a vague word—a kind of provisional pigeon-hole to contain a great variety of diseases for the present, because we do not at present understand their nature, and cannot, therefore, classify them scientifically. He looks upon it as a temporary word, to be dropped when the advance of pathology shall clear up the obscurity; and he scarcely recognizes such a thing as rheumatic diathesis. Now it is doubtless true that our means of diagnosis are imperfect, and that there are many cases called rheumatic which are not really so, but the man who, on that account, ignores the rheumatic diathesis and its tremendous influence on various forms of disease, is unfit to write the article on rheumatism in a cyclopædia. As might be expected, the discussion of the treatment is hesitating and dubious. There is one very valuable trait, however, exhibited by the author. It is this:

Where he finds that science has failed to enlighten us on any point, he makes a bold statement of what we do not know, instead of resorting to vague and pompous phraseology to bridge over the chasms of our ignorance. He would do science a service if he could induce most of our standard authors to imitate his humility.

The article makes no mention of the new salicylic and salicin treatment, though this is explained by a note of the translator, which states that the discoveries were made after the article was written. The note gives a brief statement of what is known on the subject. The conclusions are that the salicylic acid and the the sodium salicylate have essentially similar effects in reducing the temperature, and rapidly curing acute rheumatism. The sodium salicylate is preferred, and is given in doses of ten or twenty grains every hour or two, until relief is obtained, which occurs in from twelve to thirty-six hours. Afterward it is given less frequently for some time to prevent a relapse. A few cases are recorded where the remedy has produced great prostration, and resulted, as is believed, in the death of one patient. Many of the French physicians believe the remedy is dangerous when any disease of the kidney exists.

The salicin is similar in its effects to the sodium salicylate, and has been experimented with thoroughly by Dr. Maclagan.

After a discussion of the various forms of rheumatism and gout, he takes up rickets and malacosteon, and gives them a pretty full study.

Seitz contributes the next article, which is on "Slight Disorders Caused by Catching Cold."

After this we have a full and valuable discussion of the "General Disorders of Nutrition," by Immermann. This article covers nearly five hundred pages, and considers the subjects of Anæmia, Chlorosis and Corpulence,

The next discussion is upon "Scofulosis and Malignant Lymphoma," by Birch-Hirschfeld. In this he brings out the powerful remedial effects of arsenic on the latter kind of tumor. It seems not improbable that observations on growths of this character led Prof. Atlee to the notion that arsenic is a remedy for cancer in general.

The concluding essay is by Senator on "Diabetes Mellitus," and occupies about two hundred pages.

The volume has a copious index, and its typography is of the finest description. E. A.

A TREATISE ON GONORRHŒA AND SYPHILIS: By Silas Durkee, M. D., etc. Sixth edition, with eight colored illustrations. Philadelphia: Lindsay & Blakiston, 1877; pp. 467.

The sixth edition of this rather pretentious volume is very like its predecessors from the same type. Bearing such resemblance to each other, they recall the individual peculiarities of a character not unfrequently encountered in the world of society.

It is that of the little old-young man. Everybody has seen him. Everyone has observed his artistically fashioned, jaunty clothing, intended to produce the impression that he is still in the hey-day of youth. His sparse hair is so arranged over his scalp as to conceal the ravages made there by the deft fingers of time. His facial wrinkles are offset by the sprightliness of his manner. Yet the leanness of the calf of his leg and the twinges in the muscles of his back occasionally betray the fact that the famous people with whom he is proud to claim acquaintance belonged to a generation that is past.

The dress of the book before us is unexceptionable. In the work of the typographer, the proof-reader and the bookbinder no fault can be found. Even the style of the author, though occasionally careless, is fairly in keeping with the exterior. He who turns, however, to the subject-matter will be disappointed by discovering that the book is really an old one. Its discussions are of questions long settled or dismissed. Its arrangement is defective; its pathology antiquated. We have carefully examined the references in every foot-note, and have not discovered one of a more recent date than 1863. Think of the indefatigable industry of hundreds of syphilographers and authors on the subject of venereal diseases, extending through the last thirteen years, which here bears no fruit! Compare the laborious exposition of each topic in this old-new treatise with the incisive clearness and practical worth of the two other distinctively American works covering the same general ground,

and the contrast becomes painful. The author discusses gonorrhœa in women without referring to inflammation of the vulvo-vaginal gland—one of its most important complications. He fails utterly to distinguish between those genital sores which precede syphilis and those which do not. He advises to treat the syphilitic bubo by making a "pretty deep sore" over the enlarged gland with a vesicant, to which afterward mercurial ointment and the muriate of ammonia are applied! Nearly 40 pages are devoted to an attempt to prove that secondary syphilis may not be preceded by primary lesions; and in this chapter is narrated the case of an infant, infected by a syphilitic nurse-maid who kissed it, the result being that the child had a sore mouth! To the syphilitic affections of the eye and its appendages, other than iritis, but half of one page is devoted. The subject of nervous syphilis possesses no attractions for the author.

His reference to surgical authorities, whose names have long been unfamiliar to the average practitioner, is highly suggestive of the shelves of the dealer in second-hand books—the musty and calf-bound relics of the libraries of our fathers in medicine.

As for the illustrations, they seem to have been painted by an artist with few colors on his palette. The eruption represented on the integument of the man labelled "syphilitic lichen," appears to have been produced by the "running" of the vermilion which was used to color his cap; and the same inflammatory hue is depicted in the plates which are said to represent tubercular syphilis. The others are equally poor.

The truth is, that a correct representation of cutaneous diseases in color, is only obtainable by the expenditure of much money and more skill. The want of excellence in the plates before us is largely, though not exclusively, due to the fact that they were passed over too few stones. Students of cutaneous disease in this country have lately had an opportunity of observing good effects in the excellent plates of Dr. L. A. Duhring, of Philadelphia. And but few are aware of the labor expended by that gentleman in order to perfect his illustrations. After spending hours with the artist, he is often obliged to take the brush in his own hand, in order to give the finishing touch to the picture; and his lithographer has a *carte blanche* order to employ as many

stones as are necessary to correctly reproduce the original drawing. For this purpose from ten to fifteen are often required (but two or three have been used in Dr. Durkee's illustrations), and the author feels obliged to superintend in person the printing of each impression from the stones.

We have read with interest the criticisms of this volume in its present edition, as they have thus far appeared in our current medical literature, and have failed to discover in any one a decision as to the real merits of the treatise.

We should recommend no one to procure it for his library who can purchase or obtain access to the other valuable works on the same subject in the English language, and cannot fail to express our surprise that the well-known publishers should have ventured to present this edition to the profession without having first insisted upon a most careful re-editing of its pages.

J. N. H.

BOOKS AND PAMPHLETS RECEIVED.

The Science and Art of Surgery; being a Treatise on Surgical Injuries, Diseases and Operations. By John Eric Erichsen, F. R. S., F. R. C. S., etc., etc. Revised by the author from the seventh and enlarged English edition. Illustrated with eight hundred and sixty-two engravings on wood. 2 vols. Philadelphia: Henry C. Lea. 1878. 8 vo.; leather, pp. 946 each vol. Price, $10.50. For sale by Jansen, McClurg & Co.

Pneumono-Dynamics. By G. M. Garland, M. D., etc. New York: Hurd & Houghton. Boston: H. O. Houghton & Co. Cambridge: The Riverside Press. 1878. 8vo.; paper, pp. 155.

A Guide to Therapeutics and Materia Medica. By Robert Farquharson, M. D., etc. Enlarged and adapted to the U. S. Pharmacopœia. By Frank Woodbury, M. D., etc. Philadelphia: Henry C. L. Lea. 1877. 8vo.; cloth, pp. 410. Price, $2.00. For sale by Jansen, McClurg & Co.

The Elements of Therapeutics; a Clinical Guide to the Action of Medicines. By Dr. C. Binz. Translated from the Fifth German Edition, and edited with additions in conformity with the British and American Pharmacopœias, by Edward I. Sparks, M. B. Oxon., etc., etc. New York: Wm. Wood & Co. 1878. 8vo.; cloth, pp. 347. Price, $2.00. For sale by Jansen, McClurg & Co.

Public Hygiene in America; being the Centennial Discourse delivered before the International Medical Congress, Philadelphia, September, 1876. By Henry I. Bowditch, M. D., with extracts from correspondence from the various States, together with a Digest of American Sanitary Law. By Henry G. Pickering, Esq. Boston: Little, Brown & Co. London: Trubner & Co. 1877. 8vo.; cloth, pp. 498. Price, $2.50. For sale by Jansen, McClurg & Co.

Cyclopædia of the Practice of Medicine. Edited by Dr. H. Von Ziemssen, Professor of Clinical Medicine, Munich, Bavaria. Vol. XIV. Diseases of the Nervous System and Disturbances of speech, by Professors A. Eulenburg, H. Nothnagel, H. Von Ziemssen, F. Jolly, A. Kussman and Dr. J. Bauer. Translated by Drs. E. Buchanan Baxter, Alexander Morrison, David Lincoln, Geo. B. Shattuck, Samuel Webber, J. Haven Emerson, John A. McCreery. Albert H. Buck, Editor American Edition. New York: Wm. Wood & Co. 1877. 8vo.; cloth, pp. 893.

Transactions of the Twenty-Second Annual Session of the Michigan Dental Association; held at the Dental Department of the University, Ann Arbor, Oct. 9th, 10th and 11th, 1877. Published by order of the Association. Ransom & Randolph, Toledo, Ohio. 8vo.; paper, pp. 88.

Transactions of the Canada Medical Association. Tenth Annual Meeting, Montreal, Sept. 12th and 13th, 1877. Vol. I. Montreal: Printed by Lovell Printing and Publishing Company. 1877. 8vo.; paper, pp. 244.

A Case of Syphilitic Aphasia. By L. P. Yandell, Jr., M. D. Printed from the *Medical News* of Dec. 8, 1877.

What is Modern Homeopathy? By S. W. Wetmore, M. D., etc., etc. Reprint from *American Observer.*

Exposition of Facts. By A. T. Garnet, M. D.

An Address Read at the First Meeting of the American Academy of Medicine. By the Secretary, R. Lowry Sibbart, A. B., M. D., in Philadelphia, Sept, 6, 1876. On the Necessity of an Organization which shall Encourage a Higher Standard of Qualifications in the Medical Profession in the United States. Carlisle, Pa., 1877.

Do Valor Therapeutico das Injeçcoes Hydricas Subcutaneas. Pelo Dr. Moncorvo, Membro de Acad. de Med. do Rio de Janeiro, etc. etc. Extrahido do *Progresso Medico.*

Do Emprego do Chlorate de Potassa ha Diarrhéa das Crianças. Pelo Dr. Moncorvo, Membro Correspondente de Sociedad de Medicina de Pariz.

Westerman & Co. Medical Catalogue.

Bulletin Mensuel des Nouvelles Publications. Christern. Libraire à New York, Etats Unis d'Aémrique.

Bulletin des Publications Nouvelles. De G. Masson, Editeur Librairie de L'Académie de Médecine. No. 21, December, 1877.

1878. Mansill's Almanac of Planetary Meteorology and New System of Science. By Richard Mansill, Author of "Cohesive Attraction and Formation of Worlds," "Earthquakes and Volcanic Eruptions," "Universal Changes in Natural Elements," "The New Law of Gravitation," "Six Titles in Natural Law," etc., etc. Price, 50 cents. R. Crampton, Publisher, Rock Island, Ill.

Annual Address. Reprint from Vol. 2 Gynecological Transactions, 1877. By the President, Fordyce Barker, M. D., of New York.

Ninety-fifth Annual Catalogue of the Medical School of Harvard Universtiy (Boston). 1877–'78. (Reprint from the Catalogue of the University).

The Narcotic Effect of Morphia on the New-born Child when Administered to the Mother in Labor. By Walter R. Gillette, M. D. Reprint from *The American Journal of Obstetrics and Diseases of Women and Children.* Vol. X, No. IV; October, 1877.

Higher Medical Education, the True Interest of the Public and of the Profession. An Address Introductory to the 112th Course of Lectures in the Medical Department of the University of Pennsylvania. Delivered Oct. 1, 1877. By William Pepper, A. M., M. D., etc. Published by order of the Board of Trustees, and at the request of the Medical Class. Philadelphia: Collins, Printer. 1877.

Scarlatina in Chicago, Particularly the Epidemic of 1876-7. By Chas. W. Earle, M. D. Read before the Illinois State Medical Society.

On the Nature, Origin and Treatment of Puerperal Fever. By W. T. Lusk, M. D. Extract from the transactions of the International Medical Congress. Philadelphia: September, 1876.

Ovariotomy by Enucleation. By Julius F. Miner, M. D. Extract from the transactions of the International Medical Congress. Philadelphia: September, 1876.

Contributions to the History of Medical Education and Medical Institutions in the United States of America. 1776—1876. Special Report prepared for the United States Bureau of Education by N. S. Davis, A. M., M. D. Washington: Government Printing Office. 1877.

Spinal Irritation in Children as Related to True and False Arthropathies. By V. P. Gibney, M. D., etc. Reprint from the transactions of the American Neurological Association for 1877. New York: 1877.

Obituary of Joseph Warren Freer, M. D., President and Professor of Physiology and Microscopic Anatomy in Rush Medical College, Chicago.

A study of Nine Hundred and Sixty-five Cases of Chronic Pulmonary Diseases. By F. H. Davis, of Chicago, Ill. Extracted *Trans. Amer. Med. Ass'n.* Philadelphia: 1877.

An Inquiry into the General Pathology of Scurvy. By Charles Henry Rolfe, M. A., M. D., Cantab. Reprint from the *Lancet*. London: H. K. Loomis, 136 Gower street, W. C. 1877.

The Influence of High Altitudes on the Progress of Phthisis. By Chas. Denison, A. M., M. D. Ext. Trans. International Medical Congress. Philadelphia: September, 1876.

Character of Edward Hammond Clarke; the Man and the Physician. A Sermon preached in the West Church, Boston, Sunday, Dec. 9, 1877. By C. A. Bartol. Boston: 1878.

Chronic Inversion of the Uterus. Address by Prof. James P. White, M. D., Vice President of the International Medical Congress. Philadelphia: 1876.

LIST OF PRACTITIONERS WHO PASSED THE EXAMINATION of the Illinois State Board of Health, held at Springfield, Jan. 10th, 1878: G. V. Black, Jacksonville, Morgan; Ezra Brown, Sciota, McDonough; M. A. Bently, Plattville, Kendall; R. U. Chapman, Kappa, Woodford; J. B. Clark, Seymore, Champaign; C. A. Feltman, Salem, Madison; F. A. Hall, Cordova, Rock Island; C. R. House, La Crosse, Hancock; E. B. Hughes, Smithfield, Fulton; T. M. Johns, Taylorville, Christian; W. H. Lanoix, Quincy, Adams; John McGhee, Dillon, Tazewell; T. B. Norwell, Harkins Corners, Peoria; A. J. Overholt, Loami, Sangamon; J. M. Roy, Burnt Prairie, White; G. H. Rue, Ivesdale, Champaign; A. R. Spriggs, Rinard, Wayne.

LIST OF PRACTITIONERS WHO PASSED THE EXAMINATION of the Illinois State Board of Health, held at Champaign, Dec. 20, 1877: Jerome Arnold, Wilmington Brese P. O., Greene; A. M. Bird, Mason City, Mason; John Beasley, Mount Pleasant, Union; W. H. Burtnett, Camargo, Douglas; S. L. Chapin, Downs, McLean; C. A. Dean, Salem, Marion; Louis Loda, Hartsburg, Logan; E. E. McKain, New Hebron, Crawford; W. D. Matney, Harvel, Montgomery; Duncan Miller, Peoria, Peoria; A. P. Rockey, Prairie Bird, Shelby; Y. D. Scales, Manchester, Scott; S. S. Spees, Tuscola, Douglas; J. J. Starkey, Waynesville, De Witt; T. R. Scott, Attila, Williamson; T. B. Straus, Gibson, Ford.

Summary.

Practical Medicine.

Atrophy of the Testicles after Mumps.—M. Lereboullet, at a meeting of the Hospital Society (*Bulletin Gen. de Thérap.*, September, 1877, *Phil. Med. Times*), presented a soldier, aged 22 years, who, four months previously, had been attacked by mumps. At that time he had every appearance of virility, but four days afterwards double orchitis occurred, under the influence of which the testicles swelled until they were each the size of a fist. The organs subsequently became atrophied until they were reduced to the volume of an almond; at the same time there was evident a considerable development of the mammary glands. The beard also was arrested in its growth, and the patient had a perfectly smooth chin as a result of this physiological process of depilation.

Gout Treated by the Cold Water Douche.—Dr. C. G. Rothe (*Memorabilien*, 1877, No. 11). Four cases are reported to show the beneficial effect of cold water upon the gouty inflammation. All the writer claims is that this treatment quickly allayed the pain and decidedly shortened the attacks.

Here is one of the cases: A physician, aged 50 years, was, in February, 1876, suddenly seized at night by violent pain in the joint of his left great toe. At first, he attributed it to an injury he had received a few days previously; but the utter inefficiency of the ordinary antiphlogistics, and the hard exudations about the joint, soon convinced him of the gouty nature of his trouble. The attack lasted three weeks, and the toe remained sensitive and stiff several months.

In January, 1877, he had a second attack in the right toe. The joint was swollen, immovable, would not bear the slightest touch, the skin purple and glistening.

On the advice of Dr. R., the patient tried the cold water douche. He put his foot under the cold water faucet and allowed the jet to play on the painful joint during three minutes. The pain subsided instantly, and an agreeable sensation of warmth crept over the foot, which was rubbed dry after the douche. Two hours later, when the pain returned, though with less violence than before, the douche was re-applied, and repeated every two or three hours during that day. The patient passed a very good night. The next morning, the swelling and redness about the toe was gone, and the joint was a little sensitive only on strong flexion. That day, the douche was used four or five times; but since, the patient has attended to his practice and been entirely free of gout.

CATARRHAL JAUNDICE TREATED BY ENEMATA OF COLD WATER. (*Bulletin Gén. de Thérap.*, September, 1877, *Phil. Med. Times.*) As soon as the diagnosis of catarrhal jaundice is made, Dr. Krull, of Mecklenburg, commences injecting two to four pints of water into the rectum by means of irrigation. The water should be about 59° F. in temperature, and the operation should be practised once in twenty-four hours. When the enema is repeated, the temperature should be raised a few degrees, because the intenstine does not bear well, repeated contact with water of the same degree. The patient should be instructed to retain the fluid in the bowel as long as it is possible for him to do so. The notes of eleven cases are given, showing that, after a few injections in the manner described, the stools became colored with bile, the tenderness in the hepatic region, the malaise and headache disapeared, and the anorexia was notably decreased. A cure usually resulted after the administration of seven cold-water injections, and is supposed to be due to the stimulation of the peristaltic action of the intestines and to the excitation of the biliary secretion, which, by its increased quantity in the passages, overcomes the obstacle to its free escape.

A PECULIAR CASE OF VARIOLA is reported by Dr. Kersch in his *Observations During the Small-pox Epidemic in Prague*, 1876 (Memorabilien 1877, No. 11). On October 22, 1876, he was summoned to attend Mr. C. F., 28 years of age, a robust, broad-shouldered man, who had never been sick before. On the previous morning he was apparently well, and attended to his business of civil engineer; but before dinner he suddenly felt sick, and fainting, fell from his chair. The most prominent subjective symptoms were: headache, stupor, great restlessness, violent thirst. The objective symptons were: pulse, 126; temperature, 39.5°; face flushed, lips dry and purple, tongue heavily coated and dry, internal organs normal except the spleen, which was slightly enlarged; the urine highly colored and saturated with the salts of uric acid. The first night the patient was very restless, the second night he became delirious. At 10 o'clock in the evening of Oct. 24, the doctor was sent for, because the patient had become so wild that he could not be kept in bed. It was necessary to put a jacket on and to tie him to the bed. He drank eagerly if water was brought to his lips; still his lips and tongue were dry like parchment, brown and furred. Toward morning he became quieter, and slept a few hours. The next day and night he passed in the same wild delirium as before; but on the morning of Oct. 26 his mind was very much clearer; pulse 120, temperature 38.3°. The most scrupulous search for any cutaneous efflorescence resulted in the discovery of one single minute papule, surrounded by a red halo. While this was gradually growing into a regular variola pustule the fever abated, and when it was completely developed, the fever and all the constitutional symptoms disappeared.

SURGERY.

RESECTION OF THE INFRA-ORBITAL NERVE.—M. Tillaux (in *Bull. Gen. de Thérap.*, v. ii., 1877, *Phil. Med. Times*), communicates a case of resection of the infra-orbital nerve at its entrance into the infra-orbital foramen in the floor of the orbit. The patient, a woman 31 years of age, began to suffer pains in the right upper molars when she was twenty years old. Soon

after, a fetid discharge from the nose was noticed. The sinus was perforated after extraction of the first molar, and a tent was left in the opening; iodine was injected, and the patient finally cured. She continued to suffer, however, with frequent attacks of neuralgia. In 1873, the pain became constant, and the nasal discharge reappeared. The sinus was enlarged. The second molar was extracted, and the wound treated as before. After alternate neuralgia and rest, an abscess finally opened, and no pain was experienced for several years. In August, 1875, the pain reappeared. In May, 1876, she was brought to the Hôpital Lariboisière for operation. The pain, which at that time was intense, started from the infra-orbital point and radiated through the eyeball. It was accompanied by conjunctivitis and shedding of tears. M. Tillaux decided to lay bare the nerve in its infra-orbital groove, and to make the section just in front of the spheno-palatine ganglion. A horizontal incision was made in the lower eyelid, and at the internal extremity of this incision another, vertical, terminating at the ala nasi. Ligating then the infra-orbital nerve, the sclerotic was divided, the eyeball raised on a little spoon, and the roof of the infra-orbital groove was lifted with a gouge. The nerve thus laid bare was raised, and a piece a centimetre in length was cut out. Histological examination of the nerve showed hypertrophy, but no change. After this part of the operation the maxillary sinus was widely opened from in front, and was explored with the finger. Two osteophytes were found implanted on the anterior wall, which were removed. On the 18th of May the patient returned home cured. (Plates representing the instruments used accompany the report of M. Tillaux's case, and also an account of the discussion following it in the Société de Chirurgie.)

TREATMENT OF CHRONIC GONORRHŒA.—Dr. Gschirhakl (*Vierteljahresschrift f. Dermatol. und Syphilis*, 1877, No. 4). Since the endoscope has rendered the urethral lining accessible to inspection, the topical treatment of chronic gonorrhœa has assumed a more rational basis. The remedy can be applied to the very spot we wish to treat; we can dispense with indiscriminate injections, and the uncertainty of bougies smeared over

with ointments. The solid caustic need be used but in exceptional cases, because we can employ the remedy in a milder form; we can use it as a solution applied by means of a camel's hair-brush. This method has been employed with success by Tarnowsky, Grimfeld, and Fenger; and Dr. G. has also employed it in the past two years. The apparatus necessary for this topical medication, consists of the urethroscope, a metallic catheter with its beak cut off, and a set screw at the other end, an obturator to fit in the catheter, a camel's hair brush set in a long spiral wire, and a small syringe.

After the exact location of the ulcer, granulations, or swelling of the urethral membrane has been ascertained with the urethroscope, the catheter, with the obturator securely fastened by the screw, is introduced as far as the diseased spot. While the catheter is held in this position, the obturator is withdrawn, and the previously moistened camel's hair brush passed in instead. The medicine is then dropped from a syringe into the catheter; it will run down the tube, collect above the brush, and soak into the latter. This done, the catheter must be withdrawn a little, in order to get the brush on the diseased surface; and, finally, the brush can be rotated if the extent of the disease demands it. The application done, the brush is drawn back into the catheter, and both are withdrawn from the urethra. The remedies oftenest used are silver nitrate (5 to 10 grs. solution) and aluminated copper (10 grs.).

RADICAL CURE OF RETENTION OF URINE FROM ENLARGED PROSTATE.—E. Bottini (*Centralbl. f. Med.*, 1877, from *Von Langenbeck's Archiv*) reviews his proposal, made some time ago, to remove the hypertrophied prostate by the galvano-cautery in cases where the former interferes with the passage of urine. He recommends that either the entire gland should be burned away or that simple division of the enlarged portion should be practiced. The galvano-cautery used by Bottini resembles Mercier's prostatic catheter. It consists of two brass wires fastened to a staff and entirely isolated by a covering of ivory. Near the angle of the concave side is the cauterizing apparatus, a U shaped piece of platinum two and a half centimetres (one inch) long, of

which one limb is connected with the anterior wire of the instrument, the other with the posterior. As soon as the loop of the instrument can be moved about in the bladder, which should be partly full, it is to be brought against the hypertrophied part by a movement through an arc of 180°, and thus, surrounded as if by a hook, can it be destroyed with the utmost precision without (as post-mortem examination has shown) disturbing the neighboring parts in the least.

The thermo-galvanic incisor is like a lithotriptor, of which the male blade is formed of a platinum knife. This is connected by a bit of copper to the staff, and glides in the glass groove of the female blade. The point of the instrument must be applied with its concavity pressing against the lobe to be divided, so that the latter is enclosed as in a hook. Neither the cauterization nor the cutting causes much pain; so that anæsthetics are rarely necessary. The bladder is usually emptied shortly after the operation, though strangury is ordinarily experienced. No bad effects are observed; even vesical catarrh has never been noted. The urine, however, is frequently slightly bloody for a short time. Cauterization is usually advisable in partial and not prominent enlargements both of the supra-collicular portion and the lobes of the prostate. Division is to be recommended in general and uniform enlargement of the gland, and also in very prominent intumescences. Among contra-indications are—1, inactivity of the detrusor; 2, abnormal condition of the urine; 3, coincident renal disease.

THERAPEUTICS.

BISMUTH FOR PROLAPSUS ANI AND HEMORRHOIDS.—Dr. Cland. (*In Clinica di Napoli and La France Médicale*, Oct 27, 1877.) The treatment consists in introducing into the intestine every day, after reduction of the prolapsus, a teaspoonful of powdered bismuth, moistened with a little water, and mixed with powdered starch.

Good results have been obtained from the same treatment in prolapsus in children, and in grave cases of hemorrhoids.

THE ACTION OF PILOCARPIN.—Dr. E. Kurz (*Memorabilien*, 1877, No. 11). A patient with emphysema of the lungs and severe bronchial catarrh, had œdema of the lower extremities, atheromatous arteries, feeble and irregular cardiac sounds, and a serious dyspnœa. Half a drachm of a two per cent. solution of pilocarpin was injected under the skin. After ten minutes the medicine began to show its specific effect. The perspiration, however, was not very profuse; the skin became moist, but the sweat did not collect in drops. The salivation was very pronounced, and the bronchial mucus seemed to be expectorated with greater ease. The excretion of urine was not increased. The œdematous swelling of the legs diminished at once. The dyspnœa was less severe, and the patient, who had neither headache nor nasea, felt quite comfortable. The remedy was repeated several times, always with the same pleasant effect upon the patient's condition.

ELASTIC CRAYON OF NITRATE OF SILVER.—Pagot (*Annales de Gynécologie and Gazette Obstét.*, No. 21).

M. Pajot takes a laminaria tent two millimetres in diameter, dips it in thick mucilage, and then rolls it in finely powdered fused nitrate of silver, and allows it to dry. He thus obtains an elastic crayon of the ordinary size, which may be introduced into the uterus without fear of breaking. He believes this means to be applicable to other cavities, and for other more powerful caustics.

POMADE FOR PORRIGO.—Maccomac. (*L'Union Médicale*, Nov. 2d.)

Petroleum - - - -	15 grammes.
Prepared lard - - - -	30 "
Essential oil of lavender - -	q. s.

Mix.

To be softened and spread, by means of a soft brush, on the scalp, previously shaved. Before a new application, the first should be removed by means of warm water and soft soap.

This preparation is useful in tinea favosa, and in itch, and for lice of head, body, or pubis.

ANTIHERPETIC MERCURIAL LOTION.—(*L'Union Médicale*, Dec. 15, 1877.)

Bichloride of mercury	- -	0.10 grammes.
Chloride of ammonium	-	2. "
Alcohol	- - - -	15. "
Distilled water of bitter almonds		15. "

Dissolve the salts in the alcohol and almond water, and add,

Emulsion of bitter almonds	-	500. grammes.

For lotions in pityriasis, acne, chronic eczema, and pruritus.

SULPHUR LOTION.—(*L'Union Médicale*, Nov. 29, 1878.)

Sodium Sulphide	- - -	15 grammes.
Distilled water	- - - -	150 "

Dissolve.

A tablespoonful in a quart of very warm water, for lotions for the heads of children suffering with crusta lactea, and for the face in moist eruptions.

It may also be used with success in chronic eczema of the nostrils, and for puritus vulvæ.

BORAX AND NITRATE OF POTASSIUM IN SUDDEN HOARSENESS.—Dr. Corson. (*Gaz. Med. Italiana and La France Méd.*, Oct. 27, 1877.) The author recommends singers, speakers, and others, who find themselves suddenly hoarse, to dissolve slowly in the mouth a piece of borax the size of a pea. This provokes an abundant flow of saliva, which moistens the mouth and throat. This local action should be aided by an equal dose of nitrate of potassium dissolved in a small glass of very warm water at bed-time.

LIQUORICE IN DIABETES MELLITUS.—M. Martin (*Bulletin Gén. de Thérap.*, September, 1877, *Phil. Med. Times*) has experimented with liquorice in order to determine whether it can be employed in the dietetics of diabetic patients. Having under his care a man suffering with this disorder, he made him drink daily about one quart of an infusion of liquorice root, and ordered his coffee to be sweetened with a small quantity of a stronger infusion. This lessened the bitterness of the coffee, but

did not destroy its aroma or other qualities. A daily examination of the urine showed not the least increase in the amount of sugar excreted. These experiments, and others by the same author, show that patients of this description may use liquorice without fear of increasing their malady, for the purposes for which sugar is ordinarily employed.

ANTIDIARRHŒIC INJECTION.—Bouchut. (*Gazette Obstétricale*, Nov. 5, 1877.)

Borate of soda - -	10, 15, and 20 grammes.
Water - - - - - -	125 "

Dissolve.

This is advised for nervous or catarrhal diarrhœas in children; diarrhæas which may cause death without leaving any appreciable lesion. The author was led to employ borax, from the success which follows its use in the diseases of the buccal mucous membrane. He thinks it acts as a feeble astringent, and at the same time as an alkali capable of neutralizing the acidity of the liquids in the large intestine. In any case borax has the advantage of not being irritant like nitrate of silver.

CHLORATE OF POTASSIUM IN CERTAIN FORMS OF DIARRHÆA. It is stated (*La Andalusia Medica*, Cordova, August, 1877, *Phil. Med. Times*) that Dr. Vonfigli employs chlorate of potassium in the diarrhœas which occur chiefly in cachectic patients attacked with nervous affections, and which consist of very frequent serous evacuations. These diarrhœas, called by the author "vaso-paralytic," are rebellious to treatment by astringents and narcotics, and may be the percursor of death. Experiments have shown that chlorate of potassium increases the contractility of the muscular coat of the vessels, and hence the indication for its use. To obtain the favorable results stated, the drug must be continued for a long time, and in severe cases increased in dose. The dose varies from two to ten grains in the twenty-four hours, according to the individual case. The author thinks that by analogy this treatment ought to be favorable in the diarrhœa of old age, in cholera, and in certain serous diarrhœas of hot countries.

Obituary.

Another link between the present of Chicago and its earliest days, was severed by the death of WILLIAM BUTTERFIELD, on the 13th of January last, in the 57th year of his life. He was the last surviving son of Hon. Justin Butterfield, one of the pioneers of Chicago, and the leader in his day of its bar.

Mr. Butterfield's career is of interest to the medical profession in Chicago, inasmuch as he was the first graduate of Rush Medical College. Those who were present at the Commencment exercises of this institution, on February 15, 1876, will recall the fact that his name was mentioned by President, then Professor, J. Adams Allen, in the delivery of his historical address upon the early days of the college. The first regular organization of the school was effected in the fall of 1843, Drs. Brainard, Blaney, McLean and Knapp constituting the first Faculty. The lectures were delivered in little rooms on Clark street, opposite the Sherman House, where twenty students were in attendance, of whom one only was graduated, after a course of sixteen weeks' instruction. This graduate was Dr. William Butterfield.

He engaged in the practice of his profession for a few years after his studies were completed, but subsequently entered the regular service as First Lieutenant in the Marine Corps; and served as such during the Mexican war. While on duty in Mexico, his health became so impaired from the insalubrity of the climate that he remained ever afterwards an invalid. In the late civil war he served as Brigade Commissary of Subsistence till the close of the contest. Since then he has lived in the retirement of private life.

He was a man of more than ordinary strength of mind and fortitude of character, displaying those qualities in an eminent degree during his last lingering and distressing illness; and he closed a life of unobtrusive patriotism and Christian piety cheered by the affectionate solicitude and attentions of a numerous family, who can point with pride to their father's career.

Medical News and Items.

THE MICHIGAN STATE BOARD OF HEALTH held its regular quarterly meeting at Lansing, January 8, 1878.

Dr. Kedzie (president of the board and chairman of the committee on special sources of danger to life and health) gave a brief statement of some experiments which he had recently made in relation to the permeability of walls and clothing, and the relation of these to the healthful conditions of houses and clothing.

Leroy Parker read a report on a proposed amendment to a law requiring the transmission by the county clerks to the secretary of state, of the names and postoffice addresses of coroners as well as those of other county officers now reported. The proposed amendment will enable the state department and the secretary of the state board of health to communicate with these officers, and to learn from them the number of sudden and violent deaths, and the causes of same, with a view to remove causes when possible. He was requested to continue his investigations, and report at next meeting. He also read a report pointing out the fact that section 6852 of the compiled laws of 1871, makes it the duty of supervisors to prosecute householders and physicians for not giving notice of cases of diseases which endanger the public health. Mr. Parker and Dr. Baker were appointed a committee to draft a circular to supervisors of townships, pointing out their duties under this particular law. Mr. Parker was requested to draft an amendment to the present law which would require the health officers of cities and villages to prosecute, in the same manner as do supervisors in townships, for any neglect to give notice of contagious diseases.

The secretary stated that diphtheria had been more prevalent than usual in this and other states, and suggested that the board issue a circular on the subject. Dr. Hitchcock was requested to prepare such circular. The causes of diphtheria were thoroughly discussed, and the opinion seemed to prevail that sewer gas, dampness, and mold had much to do in causing it, although it is a contagious disease.

Dr. Kedzie made a brief report, giving an account of experiments and tests for detection of lead in tin utensils in common use, having examined quite a number of specimens. He found about three-fourths of all the specimens examined, contained lead in considerable amount. The test which Dr. Kedzie gave for this adulteration is quite simple: Place a drop of nitric acid on the tin to be tested, and evaporate to dryness; then add a drop of iodide of potassium. If lead is present, there will be a yellow coloration. If it is not present the spot will remain white. Dr. Kedzie will examine the subject further, and report at a future meeting.

We have to congratulate ourselves upon the readiness with which our American cotemporaries emulate our example. When the Chicago Medical Journal and Examiner tried the effect of a red ribbon upon its exterior, one of its Southern neighbors hastened to follow suit. And after we had donned a more sober and less pretentious garb, the *St. Louis Medical and Surgical Journal* adopted a dress so similar that it is difficult to distinguish between the two. St. Louis has long attempted to rival Chicago in various particulars; and in this matter we have to congratulate our cotemporary upon its display of good taste. We trust that before long others may resemble us in a more essential feature, by becoming the property of the entire profession in each city, and ceasing to be the organs of a college or a clique.

ANNOUNCEMENTS FOR THE MONTH.

SOCIETY MEETINGS.

Chicago Medical Society—Mondays, Fub. 4 and 17.

Chicago Society of Physicians and Surgeons—Mondays, Feb. 11 and 24.

CLINICS.

MONDAY.

Eye and Ear Infirmary—2 to 4 p. m., by Prof. Holmes and Dr. Hotz—2 p. m., Prof. Jones.

Mercy Hospital—2 to 3 p. m. Surgical, by Prof. Andrews.

Rush Medical College—1:30 p. m. Medical, by Dr. Bridge.

County Hospital—8 p. m. Necropsy, by Dr. Danforth.

Woman's Medical College—3 p. m. Surgical, by Prof. Owens.

TUESDAY.

County Hospital—1:30 p. m. Medical, by Prof. Bevan; 2:30 p. m. Surgical, by Dr. Bogue.

Mercy Hospital—2 p. m. Medical, by Prof. Hollister.

Eye and Ear Infirmary—2 p. m. Prof. Jones.

WEDNESDAY.

County Hospital—1:30 p. m. Gynecological, by Prof. Fitch; 2:30 p. m. Ophthalmological, by Dr. Montgomery.

Mercy Hospital—2 p. m. Eye and Ear, by Prof. Jones.

Rush Medical College—4 p. m. Diseases of the Chest, by Prof. Ross.

THURSDAY.

Mercy Hospital—2 p. m. Medical, by Prof. Davis.

Rush Medical College—1:30 p. m. Neurological, by Prof. Lyman.

Eye and Ear Infirmary—2 to 4 p. m. Operations by Prof. Holmes and Dr. Hotz.

FRIDAY.

Mercy Hospital—2 p. m. Medical, by Prof. Davis.

County Hospital—1:30 p. m. Medical, by Prof. Ross; 2:30 p. m., Surgical, by Prof. Gunn.

Woman's Medical College—10 p. m. Ophthalmological, by Dr. Montgomery.

SATURDAY.

Rush Medical College—2 p. m. Surgical, Prof. Gunn.

Chicago Medical College—2 p. m. Surgical, by Prof. Andrews and Isham; 3 p. m., Diseases of the Chest, by Prof. Johnson.

Woman's Medical College—12 m. Gynecological, by Prof. Fitch; 3 p. m. Dermatological, Dr. Maynard.

Special Clinics daily, from 2 to 4 p. m., at the South Side Dispensary, and at the Central Free Dispensary.

For schedule of lectures at the colleges, apply to the college janitors.

THE

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AND

EXAMINER.

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Original Communications.

ON PROFESSOR NUSSBAUM'S OPERATION OF NERVE-STRETCHING.

BY SAMUEL F. FARRAR, M. D.

On the 23d of June, 1872, Prof. v. Nussbaum performed for the first time in the annals of surgery, the operation of nerve-stretching. The patient, a soldier, had been wounded in the elbow and neck by a rifle ball, and upon the neck an abcess formed, which healed in about fourteen days, but in consequence of these injuries such a violent contraction of the left pectoralis major and minor muscles and all the flexors of the left upper-arm, forearm and hand arose, that not even by main force could the fingers and elbow be bent in a straight line. The sensibility in these parts was very much lowered, but not entirely lost, for though pricking of a pin made no impression, yet deep incisions were felt in a very slight degree. When the patient was anæsthetized, as was often tried, then the arm and hand could be drawn out and kept straight, by being bound to a splint, just as long as the patient was without feeling or consciousness, but in a very few minutes after waking the cramps would return with such violence that had not the bindings around the arm and splint

been immediately removed, deep wounds in the skin would have resulted from the mere force of the contraction of the muscles. Then in about two hours after the anæsthetic had been given, while the patient was slightly conscious, powerful muscular contractions took place over the whole body, which lasted, however, but a short time and then passed away. Supported by the investigations of Prof. Voigt, he thought these disturbances depended upon an irritation of the four lower cervical nerves in their motor branches, together with lighter disturbances of the sensory roots at their origin in the cord. And as the medicines which act upon the cord appeared to do more harm than good, he determined to try the experiment of stretching the nerve, in the hope of relieving the agony that the patient suffered. He conceived the possibility of the result from observations made after resection of the elbow-joint, in cases where the ulnar nerve had become stretched, which proved to him that the cramps which took place before the operation, were relieved by the drawing out of the nerve.

The operation was done in this manner: first the patient was anæsthestized to the fullest extent, then a long incision was made directly over the ulnar nerve, then the nerve was carefully dissected out, stretched and put back in its place, the wound carefully washed and sewed up. A second incision was made, just over the axillary artery, and all the thick nerve fibres around the artery were removed from their adhesions to the surrounding tissue, the cutaneous, as well as the muscular, and the median, radial and ulnar distinguished by this, that upon their being stretched, the muscles to which they were distributed contracted violently. This wound was treated in the same way as the other. Finally a third incision was made over the greater curve of the left clavicle, cutting through the platysma myoides, and exposing the inferior cervical nerves which were taken up on the finger and stretched, then each one was followed up by the end of the finger to its foramen and pushed from its egress in all directions; finally a pull was made, as if to separate it from the cord. During these manipulations there were violent contractions of the left arm. Then the lower nerve fibres which in no way were abnormal in appearance were put back as far as possible in their original places, and the wound washed and sewed up.

The result was satisfactory, according to the article in Schmidt's Jahrbücher, which was an extract from a German journal to which I had not access, which contains Prof. Von Nussbaum's own account, written while the patient was still under treatment, though then very much improved. I also find in one of the English journals a short notice of this operation, announcing that it was successful. So the patient may have recovered. The after treatment was nourishment, baths, electricity and exercise. In this case the lesion was due to peripheral irritation, but in another, in which he operated in 1876, it was of centric origin. The patient was a Polish gentleman, who had suffered from paraplegia for eleven years in consequence of a fall, in which severe injuries were received in the sacral region. During this period there had been partial loss of sensation and total loss of voluntary movement. The patient through the whole sickness had been very much tormented by constant tonic spasms, which were at times so severe that the knees were dragged up in front of the chest. The patient was anæsthetized and an incision made along the direction of Poupart's ligament; the anterior crural nerve was taken up and separated from the vein and artery, then the finger passed under and the nerve stretched, when it was returned to its place and the wound closed. The sciatic nerve was treated in the same way, the incision being made between the greater trochanter and the tuberosity of the ischium. At the end of a fortnight the same operations were performed on the other side, and the patient, though not cured, was very much improved, and was able to walk about with crutches, a thing that for years he had not been able to do.

The *Lancet* of June 26th, 1875, gives a case of nerve stretching for neuralgia, which was done by Dr. Callender, at St. Bartholomew's Hospital. The patient was a carpenter, and a little over a year before the operation was done, had had his hand sawed off by a circular saw. At the time that he came to the hospital, he suffered from a painful and unnourished condition of the stump. He had undergone two amputations, before he came, because after the first, the wound did not heal and there was a very painful condition of the forearm, hence the second, a year afterwards, was deemed advisable. This was followed by successful healing, yet

the pain still remained, and a few weeks before he came to St. Bartholomew's, he struck the end of the stump, and from that time the pain had greatly increased, and the arm and forearm become cold, the skin glazed and of a dusky color, from want of proper nourishment in the arm. A little while after this, the pain became constant and was always described as being over the region of the median nerve. Every kind of medical treatment suitable for such cases, as morphine, belladonna and anodyne liniments, was tried, but only with a very temporary effect, and the pain meanwhile kept steadily increasing: finally it became so intense, that the patient was unable to sleep and at times became sick and vomited. On the 27th of March, Dr. Callender cut down on the median nerve, which seemed to be thickened in itself, and in its surroundings. After freeing about an inch of the nerve from its adjacent structure, he forcibly stretched it for about three quarters of an inch. Then the wound was closed, and dressed with salicylic acid dressings. On the 25th of April, he was well in every respect, the pain was gone and the natural heat and color of the parts returned.

In this case the irritation may have come from the nerves having been strained in extending the forearm, as, after amputation of this kind, the arm while healing is usually carried flexed, and later when the arm is used and extended, the nerves which have their cut ends attached to the stump or rather the scarred tissues of the stump, resent the strain. There are other ways in which irritations may arise: 1st. If the tissues about a nerve become thickened, and in this way the nerves become bound down to the adjacent structures and so lose their freedom of action, and the power of gliding which belongs to nerves about joints. This is sometimes the case in a fracture of the lower end of the humerus when the recovery takes place with much thickening of the tissues about the internal condyle. Here when the arm comes to be used, it will be found that there is pain in the course of the ulnar nerve, and also numbness in the little and ring fingers whenever the arm is forcibly extended. 2d. The nerves in stumps may become irritated by their having contracted adhesions to the muscles, thus being liable to be pulled or twitched in the movement of these muscles. 3rd. Bands of

fibrous adhesions may form across nerves and in contraction of these, pressure on the nerve will arise, and thus cause irritation, or instead of a mere band, dense contractile tissue may surround the nerve for some distance, and so cause irritation of its fibres.

Prof. Vogt reported the following case in the *Centralblatt für Chirurgie* of 1876, and an abstract of this is given in the *British Medical Journal* for 1877. The patient a laborer, aged 63, received an injury of the right hand from a falling stone. At the end of two weeks the palmar wound was entirely healed, and on the dorsal, opposite the lower end of the third metacarpal bone, a healthy granular surface existed ; when trismus set in, severe opisthotonos and clonic convulsions followed, in spite of the free use of opium. There was, however, no tenderness either in the wound or over the course of the nerve in the arm or forearm, but the brachial plexus in the neck was very sensitive, and pressure gave rise to spasm of the muscles. The operation was made by exposing the brachial plexus on the right side of the neck, in the triangle enclosed by the trapezius, omo-hyoid and scaleni muscles, opening its sheath, drawing out and stretching the separate trunks. The sheath appearing strongly injected was loosened from the surrounding tissues, as far as the spinal canal. In the hand, the palmar cicatrix was separated from the sheath of the flexor tendons, by a crucial incision and subsequent dissection, and the cicatrising edge of the dorsal wound excised. Immediately on waking, the patient could open his mouth, and run out his tongue, and all symptoms disappeared except some slight spasms of the muscles of the neck, which followed vomiting on the second day. On the tenth day after the operation, the wounds were nearly healed. The patient received no other medicine than opium for restlessness at night and felt no morbid sensations beyond an occasional pricking in the fingers.

In the *Philadelphia Medical Times* for 1877, the following case of Dr. Ferdinand Petersen is given: The patient was a blacksmith, and while working was struck on the right leg by a piece of steel, the fragment burying itself in the tissues. Persistent pain troubled the patient to such a degree, that he insisted upon having an operation for the removal of the foreign body. Dr. Petersen found the painful spot to be situated in about the middle of the

leg on the inside, somewhat back of the tibia. He cut down upon it and explored in various directions, but did not succeed in finding the steel. The nerve which had been laid bare in the operation seemed very sensitive, so Dr. Petersen took it up and stretched it. The wound healed quickly leaving the patient without pain, and able to walk about with comfort, though the fragment of steel remained in the tissue most probably encapsuled.

In one of the last numbers of this same journal, is an account of the stretching of the post-tibial and the popliteal nerves for tetanus caused by the impaction of a splinter beneath the toe, and consequent exposure to cold. Here only a temporary benefit was gained, for though a diminution of the symptoms followed for a short time, the patient finally died. In this case the posterior tibial was injected and thickened; the popliteal normal, and the sciatic nerve exhibited several points of injection. The same article gives another case of nerve stretching by Prof. Vogt for neuralgia, from a wound in the inner part of the right forearm, which, after healing, left impaired movement in the little and ring fingers, attributed to involvement of the flexor tendons in the cicatrix, at the same time the seat of the scar was very painful, especially at one point, which, on being touched, gave rise to acute pain radiating into the fingers. This condition continued for a year, when Vogt dissected out the ulnar nerve from the cicatricial tissue and stretched it in both directions, after which there was disappearance of the neuralgia and complete use of the fingers.

In the *Revue des Sc. Méd., Vol. I*, 1873, is an account of the stretching of the spinal nerves, by Dr. Gartner of Stuttgart, but unfortunately neither the names nor number of the nerves are stated. The patient, a woman aged 38 years, had suffered from right hemiplegia since she was four years old, when suddenly a very acute pain came in the paralyzed arm, accompanied by a sensation of retraction. The nerves were laid bare and stretched by the aid of blunt hooks, the pain disappeared and did not return until death, which followed fifteen days later.

Dr. Drake published in the *Canada Medical and Surgical Journal* for October, 1876, a very long and full case of traumatic tetanus treated in this way.

The patient, a well-nourished, powerful Swede, aged 28, was admitted to the Montreal General Hospital, complaining of a soreness about the throat, difficulty of swallowing, and a great feeling of stiffness. This was on August 25th, and on the 12th, thirteen days previous, he had stepped on a rusty nail, running it through the outer margin of the left foot, an inch above the metatarso-phalangeal articulation of the little toe. He extracted the nail at once, and applied turpentine to the wound. It felt sore for a few days, but as it did not prevent him from working, he did not pay any attention to it; but on the 20th, he noticed that he could not open his mouth as well as usual, when he was taking his food, and that he experienced some difficulty in swallowing, not pain, but a sensation as if the food slipped down too quickly, and with a jerk. Mastication soon became so difficult, that he was obliged to take nothing but liquid food. Also at times, profuse perspiration occurred. These symptoms became daily more marked till the 23d, when he began to feel pain in the back and shoulders, or rather a sense of stiffness, which made it difficult for him to bend, and slight chills came on at night. On the 24th he left work, and although he felt himself growing stiffer and more chilly, he still kept up. On the 25th he was admitted to the hospital, complaining of a soreness in the throat, difficulty of swallowing, and general stiffness, but did not mention the accident he had received, nor, being a foreigner, was he able to give a clear account of himself. In the evening he complained of pain in the chest, back, wrist and ankles, and spent a very restless night, complaining very loudly of wandering pain all over the body. On the 26th, at the morning visit, trismus and opisthotonos were well marked, he was covered with profuse perspiration, complained of intense pain in the back and neck, and had a desire to defecate, but could not. The symptoms rapidly grew worse during the forenoon, when regular tetanic spasms set in, the whole body being convulsed every few minutes. During the spasms the teeth were tightly clenched, the arms and legs drawn up and rigid, and the back arched in permanent spasm, so that he lay with only the back of his head and heels touching the bed. He had great thirst, but could not drink a drop, and the pupils were widely dilated. At 4.30 p. m., the patient was

anæsthetized, the sciatic seized with forceps and pulled. The immediate effect was remarkable. Before, and at the time of the operation, the arms and legs were firmly fixed and rigid, the back arched, the head thrown back, and the teeth clenched, although the patient was under chloroform; after the traction was made the limbs became suddenly flacid, the opisthotonos relaxed, the jaws could be opened, and the patient lay quietly on the bed, and without spasm. On coming out of the choloroform, he felt very comfortable, and drank a quantity of milk with avidity. At this time the treatment with calabar bean was begun. In the evening when the urine was drawn, he had a spasm, attended with slight opisthotonos. For the next three days he had frequent spasms, but no opisthotonos, but on the fourth and fifth the spasms were severe, and attended with trismus.

Aug. 31st.—The breathing was so hard that the calabar bean had to be stopped for an hour, and the whisky which had been given continuously, had to be increased. The symptoms continued in this way till Sept. 8th, the patient feeling sometimes stronger and at others weaker. During all this time, though the cramps came on frequently, they were not generally severe. The opisthotonos, when it did occur, was slight, and he was almost always able to swallow and take nourishment, until Sept. 8th, when a little after nine p. m., he was seized with a spasm, and as the physician had been called away, and hence was not able to treat the attack in time, he died.

I have given this full account: 1st, because it was such a remarkably marked case of tetanus, the symptoms being so full, and following each other with such regularity; 2d, because, as I had to record a death in this case, I hoped to show that the nerve stretching, instead of doing harm, did good, as I think no one will doubt, should the details be carefully studied. These, of course, in a paper of this kind, I have been unable to give. A statement of Dr. Callender, of St. Bartholomew, which I shall give later, will corroborate this opinion, namely, that the stretching, though it did not cure, was of service, and should have been tried. In conclusion of this case I give the opinion of Dr. J. C. Cameron, who attended the patient throughout. "Could I have been with him after 9 p. m., the fatal termination might have

been warded off, for he had come safely through very much worse spasms than this, when he was far more prostrated. He was so much stronger and better than he had been for days, that we were all confident that he would recover. The inattention and culpable neglect of one of the attendants is no doubt, in a great measure, answerable for the poor fellow's death. It was ascertained, when it was too late, that his whisky, upon which we relied to maintain the heart's action and counteract the depressing effects of the bean, had not been given to him regularly nor in the quantity prescribed, as a portion of it had been taken by one of the attendants. This unfortunate affair is much to be regretted, as the case was progressing so favorably, and bid fair to be a triumph for nerve stretching and calabar bean."

In the *Medical Times and Gazette* for Sept. 15th, 1877, in an article on this subject, there is slight reference to an operation, by Dr. Patruban, which simply announces that in 1872 he laid bare and stretched the sciatic nerve for sciatica with great amelioration of symptoms. But as I cannot find the case in any of the journals in the Boston medical library, which, thanks to the courtesy of Dr. Chadwick, I have had the liberty of using, I am unable to give the details, and must content myself with a bare statement of the fact. There is another reference to a case of Von Nussbaum, in 1875, in which he laid bare and stretched the tibial and peroneal nerve for reflex epilepsy, complete cures resulting; also to one of Vogt's, in which he, in 1876, stretched the inferior dental for neuralgia, and the patient was cured. The same article reports that Kocher stretched the tibial nerve for rheumatic tetanus, but does not give any result. The same excuse that I have just made, must apply here. The article is a résumé of a work on nerve stretching by Dr. Paul Vogt, called Die Nervendehnung als Operation in der chirurgischen Praxis. To the cases which we have collated, it adds three more of tetanus, in which two were cured by him after operation. The first time that this operation was performed in America was, I think, on the 15th of May, 1876, by Dr. Edmund Andrews, surgeon to the Mercy Hospital and professor of surgery in the Chicago Medical College. For this operation, as for two years

I was his assistant in his private practice, I had the pleasure of giving the anæsthetic.

The patient, a sailor, about a year before the operation, fell from a yard to the deck of a ship, fracturing thereby two ribs and his right leg, causing total loss of motion and sensation in both the inferior extremities. The sensation afterwards returned, as did the motion, but this was perverted. When he was admitted to the Mercy Hospital, he complained of cramps and the most excruciating pains when his legs were straightened. His chief symptom was constant tonic spasm of the adductors of the thigh. This was so remarkably developed, and pressed the knees so painfully together, that he was obliged to wear a cushion between them to relieve the pressure; again, as these cramps came on when the legs were straightened, he was in the habit of using, to prevent this, a harness of his own construction and device, resembling that used in lithotomy, as the legs in this case were drawn out involuntarily. Another peculiar feature in this case was, that if the end of the penis was lightly touched with the finger, the thighs opened freely for a minute, though they closed again afterwards. On the fifteenth of May, the patient was anæsthetized. The patient was soon fully under the influence of the ether, that is, as far as one can judge by the ordinary signs, such as absence of reflex phenomena on pinching the eyelids, and making slight incisions with the knife. Of none of these irritants was he conscious, but the minute that his legs were straightened out, he became aroused, and another spasm occurred. This was tried twice in succession, and both times with the same result. So, that finally, to keep him quiet for the operation, I was obliged to keep him anæsthetized to such a degree, that he was in danger of being asphyxiated, in fact, one man had to drag out his tongue with a tenaculum during the entire operation. Dr. Andrews cut down, exposed, and stretched quite strongly the great sciatic and anterior crural nerves of the *left thigh*, then the wound was dressed with antiseptic dressings. The patient was relieved, strange to say, in the *right leg*. On the 24th, the operation was repeated, but on the *right leg*, and the patient was very much eased in his *left*. He was kept in the hospital until the 6th of September, when he was discharged,

not cured, but very decidedly improved. And this improvement continued, as a few months afterwards Dr. Andrews received a letter from him in Liverpool, saying that though he had slight cramps occasionally, he still had been able to work his passage across. There are three noticeable points in this case that I cannot find in any other: 1st. Touching the penis caused the thighs to open. 2d. The phenomena under ether. 3d. Stretching the nerves of the left leg helped the right, and vice versa.

We have here sixteen cases with four deaths, and one case which I must put down as doubtful, thus giving us a mortality of 25 per cent. Although these cases are too few to justify any definite conclusions, and more must be collected, and careful statistics compiled before we can come to any exact determination, yet even from these, we are able to draw inferences, and these in favor of this operation, which has been tried in many affections of the nervous system such as neuralgia, paraplegia, trismus, etc. In all it has relieved, and in some cases, even in those cases in which death did occur, it made the death less painful and at the same time prolonged life. Again looking at the cases of mortality, we enquire if it was due so much to the operation as to the disease. In one of the cases the patient had hemiplegia for 37 years, then pain began suddenly to come on showing that some change was taking place in the system, and it is not unreasonable to suppose that this pain was the forerunner of death, and that the operation, while it was unable to prevent, at least did not produce the fatal result. The other cases were those of severe tetanus, a disease which when severe, generally causes death; we may therefore conclude that this operation of nerve stretching if not perfectly safe, is at least not dangerous.

Dr. Callender says there is no reason to fear trouble in nerve stretching, on the side of the nerve centre, as from the cases cited by himself, Nussbaum, and Billroth, it is proved that the nerves freed from their surrounding at the point from which traction is made, will tolerate stretching well. Nor on the other hand, is there any risk of disturbing the junction at the peripheral end, by this operation, nor is the nutrition interfered with, by isolation, as such nerves as the ulnar, musculo-spiral and ischiatic have been isolated and yet no harm has arisen, so that we may

be sure that the exposure and stretching of nerves will not be followed by any bad result. In regard to the theory of this operation he says: the relief is not from any stimulating effect on the nerve fibres, because it is not to be supposed that the violent traction made in these cases can have a stimulating effect. He thinks that in some cases the laying bare of nerves and the freeing it from the abnormal adhesions with the adjacent structures, may be a source of relief as is shown in those cases in which great pain is felt in joints, from the straining of the adhesions which are often slight, but very sensitive to stretching. The relief is given by the complete tearing across of those adhesions, and here it is reasonable to suppose, that equal relief might follow the tearing off of the adhesions fixing the nerve, by the operation of nerve stretching. Though it is possible for this occasionally to happen, yet such an occurrence is probably exceptional, for the reason that adhesions, if they should exist, are most likely to be found around the distal end in relation to the scar, and would practically be destroyed as far as the conveying sensory impressions was concerned, by freeing the nerve from its surroundings, immediately above the cicatrix, either by dividing or cutting a portion of it. And yet this rarely succeeds, except in those cases, in which a single nerve is alone affected. Therefore he advances as the most plausible theory, that the stretching is of use by benumbing the nerve for a short time, not paralyzing it, because in the cases in which continuous nerves have been operated upon, motion and sensation have been retained in the parts to which the nerve was distributed, deadened indeed, for a short time, but not even temporarily lost. By this benumbing process the transit of abnormal impressions conveyed along the fibres of the nerves may be broken, and in the interval gained, the centres may reassume their natural state, just as in the operation proposed by Brown Séquard, in which the nerve, when exposed is washed repeatedly with ether, and thus rendered for many days quite incapable of transmitting any irritation. What is needed in these cases may be, first the freeing of the nerves from the conditions which caused the local irritation, and in the second place the temporary benumbing of the

nerve trunk, in order to interrupt the chain of impressions which have habitually passed into and through the nerve centre.

Dr. Richard Wolseley mentions an interesting case of benumbing a nerve temporarily, by ether. The patient suffered from a fibroid tumor of the uterus, which was so large as to cause pressure on the sciatic, producing intense and almost continuous pain down the thigh and leg, for the relief of which sedative applications were ineffectual. At last he tried the application of the ether spray down the course of the nerve in the thigh which was done for about two minutes and gave immediate relief, and the pain did not return for ten days ; since that time he has tried the same in sciatica, and advised others to do so, and in every case relief was afforded.

In the *Boston Medical and Surgical Journal*, August 30th, 1877, Dr. James J. Putnam, mentions two cases, in which the patients had been suffering for months from neuralgia, and were cured by this operation ; and says there was no reason to believe that the nerves were bound down by any adhesions which were broken by the stretching, and the operation must be looked upon as a means of exerting a profound impression upon the affected part of the nerve centres.

Valentin, after a series of experiments, arrived at the following conclusions :

1st. Stretching lengthens the primitive fasciculi and decreases their calibre, and the nerve sheath presses upon the medullary substance. Electric excitability is not much interfered with, *provided* the stretching be not too considerable.

2d. If the stretching has not been carried too far, a nerve will quickly recover itself; the time required for recovery is in direct ratio to the weight applied and the length of time during which it was applied. If the stretching has been carried to such a point that no further excitability can be produced, it may nevertheless recover perfectly after a sufficient period of rest.

3d. The microscopic examination of nerves which have been stretched to their utmost, fail, as a rule, to discover anything abnormal, except that the medullary substance seems in places to be separated from the nerve sheath, just where the rupture of the sheath seemed to be commencing.

In closing this article, I cannot do better than to quote liberally from the before mentioned article in the *London Medical Times and Gazette*, as follows: "When this operation is compared with the only other operative procedure which is open to the surgeon, it stands out in prominent and favorable contrast; for neurotomy, hitherto employed, brings about its mechanical interruptions in nerve-conduction by means of solution of continuity, and on this account, therefore, the operation has, for the most part, only been applied to sensory nerves; for division of a motor nerve would be followed by immediate paralysis of muscles or even limbs supplied by this nerve. Further, the disease may be either central or peripheral, and division of the nerve, under any circumstances, could hardly affect a central cause, and hence in many cases would be contra-indicated. Stretching is indicated in neuralgia:

1st. In combination with neurotomy, when we have a case of peripheral origin affecting a purely sensory nerve, when all other therapeutical means have failed, and it is a case in which no special local means are indicated, such as removing a scar, foreign body, or morbid growth. By means of this combination we get rid of the peripheral irritation, or at least get an interruption of communication with the nervous center, and also a diminution of the irritability in the course of the entire nerve trunk since the action of nerve stretching goes much further in this direction than simple division of the nerves; also from the circulatory change which results in an alteration in the nutrition of the nerve. In this operation the blood vessels within the sheath become stretched and displaced, as is shown by the tortuosity and marked dilatation of the vessels supplying the nerves, while an altered condition of the vessels within the nerve-trunk does not seem to take place.

2d. It should be tried, in those cases of neuralgia, depending upon the mixed nerves, after all causes of local irritation have been removed, such as scars, etc., and all therapeutic measures tried.

In epilepsy, depending on some appreciable or fairly obvious injury of a peripheral nerve distribution.

In traumatic tetanus, but here should be no delay, until other means have failed, but the operation should be immediate.

To sum up, this operation may be needed when the symptoms are exalted sensibility, and disturbed function, due to disturbed blood circulation at the periphery.

THE USE OF CARBOLIC ACID BY SUBCUTANEOUS INJECTION, IN THE TREATMENT OF ERYSIPELAS.

By James S. Whitmire, M. D., Metamora, Ills.

Erysipelas may occur from a variety of causes, such as traumatism, specific or local influence, and also from general or specific fevers, the origin of which may be found in the sporules of microscopic fungi, or germs, that find their way into the circulation by means of respiration, food, drink, wounds, etc. —thus engendering a portion at least, of our so-called zymotic diseases. In either case, the cause of the local inflammation, though there may be a difference in the grade, is, evidently, derived from some septic or specific source. Without any intention of writing a lengthy dissertation on either the etiology or pathology of erysipelas, I have made the foregoing concise statements regarding the disease, because they seem to be in accord with generally accepted theory, and because what I shall further say respecting treatment, will thus seem more clear and rational to the reader. It is now a pretty generally conceded fact, that in the treatment of erysipelas, medicines of a sustaining character are required, to successfully combat this disease, as well as those that antagonize the zymoma. Hence. the rationale of the use of the tinct. ferri chloridi in erysipelas: because, by its absorption into the circulation, it enables the red corpuscles of the blood to carry a greater amount of oxygen to the starving tissues; and the presence of the iron in the blood gives to this fluid a richness, and we might say a tonicity, that probably intercepts the fermentive process that has been previously occasioned by septic influences. Besides this, it is more than probable that

the small excess of hydrochloric acid contained in this tincture, may, and probably does, conduce to the same end. Again, the potassic chlorate is also considered a valuable remedy in the disease, and this, more than likely, on account of the large proportion—39 per cent.—of oxygen carried with it into the circulation for the revivifying of tissues and the facilitating healthy molecular change. Quinine is also given, not alone on the theory that it is destructive to the lower organisms, but that it is both a febrifuge and a tonic, and therefore, a supporter of the vital functions.

My object in this communication is simply to give succinctly my clinical experience, and also to make some suggestions regarding the physiological action of carbolic acid, when used as a subcutaneous injection in erysipelas. Some time before using carbolic acid in this manner, my attention had been called to the probability of its favorable action by subcutaneous injection in erysipelatous inflammation, by a simple paragraph in one of the medical journals. This paragraph made an impression on my mind, as I recognized the parasiticidal effect of the drug and its acknowledged anti-zymotic action. I was thus prepared at the first favorable opportunity to investigate its adjuvant action in connection with other and established remedies. I reasoned in this way: besides the antiseptic properties that the acid is known to possess, in its pure state, it is an escharotic; so also are iodine, bromine, and the mineral acids; and yet, in a dilute condition, they manifest very different and valuable properties, and become not only harmless in their action upon the economy, but tonic, alterative, rubefacient, deturgent, or absorbent, according to the condition for which either of them may be used. I argued that owing to its caustic action in a pure state, it might act as a simple local stimulant when subcutaneously injected in a dilute form. Why should it not stimulate the capillary vessels of the part, and enable them to relieve themselves of their overloaded contents? Might it not also stimulate the absorbent or lymphatic vessels, and enable them to take up effused serum escaped from engorged capillaries into the cellular tissue? Thus reasoning, I was prepared to test the acid, and in a short time after I had come to this conclusion, an opportunity offered in the

case of an old German lady, aged 70 years, as I have since learned. I was called to see her July 6th, 1876. I reported this case, verbally, to the Illinois State Medical Society, at its meeting in Chicago, May, 1877. I found one eye sealed, on account of swelling. The inflammation extended over the scalp to the ear, and over the face to the mouth. The swelling was purple from engorgement of capillaries, and vesication had taken place at two or three points. I thought it would slough, and I came to this conclusion more on account of her advanced age and the feeble condition of her general health, than from any other reason. It was certainly a case that would result in gangrene under any of the ordinary methods of treatment.

Here was an old lady who, from the infirmities of age, could not be cheated, under any circumstances, out of many years. But I had faith in my theoretic reasoning and the knowledge that the acid, by its absorption into the general circulation, would come unchanged into direct contact with microscopic germs or other septic agents which it would destroy. Thus the blood would be depurated and the nervous system relieved of a corresponding cause of depression. Since verbally reporting the above case at the Illinois Medical Society, I have formulated my prescription, so that others who have no experience with the subcutaneous use of this acid may employ it without the remotest risk of doing mischief. The subjoined formula is of about the same strength as that employed in the case referred to above :—

Carbolic acid (crystals), 1 ounce avoirdupois, pure glycerine, fld.℥j., mix and warm in a water bath till the acid is dissolved. To prepare this fluid for the purpose of injection I use the following proportions : glycerine, ℥ss., water ℥ss., of the mixture described above, drops xx. There are therefore, about ten drops of the pure acid to each fluid ounce of the mixture, or injection fluid, and therefore one and a quarter (1¼) drops to each drachm of the fluid. By count, this mixture contains about sixty (60) drops to the drachm, so that it is an easy matter to know exactly what amount of the pure acid is used at any given time. In the case of the woman alluded to, I used two drachms of the latter mixture the first time, which would be equivalent to two and one half drops of the pure acid. I introduced the point

of the syringe at a dozen or more points, completely encircling the discolored skin, and at a half dozen or more points over the diseased surface; after which, to keep the surface moist, I used a solution of iodine in castor oil, the formula for which I here give: iodine, gr. xv., iod. pot., gr. x., alcohol, ℥jj., rub thoroughly in a Wedgewood mortar, add gradually, castor oil, ℥iv., till the iodine is all dissolved. In a few minutes is formed a fine red solution of iodine. I prefer this solution lest a stronger one produce an irritating or vesicant effect upon the skin, which would rather favor the spread of the local affection than otherwise. I ordered the following prescription to be taken internally: ℞. tinct. ferri. chlorid., f.℥ss., pot. chlor., ℥ij., ammoniæ hydrochlo., ℥jjj., syrup. simp., ad f.℥iv.; of this mixture one tablespoonful is to be taken in water every four hours. I also ordered; ℞. opii. pulv., gr., iij., quin. sulph., ℥ss., pot. chlor., ℥j.; M. Div. in pulv. ix—Sig.: One to be taken between each dose of the mixture. Under this treatment, in twenty-four hours, the swelling had considerably abated so that she could freely open her eyes.

July 7.—Temp., 100° F.; pulse, 98; respirations, 20 per m. I repeated the injections, and continued treatment.

July 8.—Swelling still abating; she opens her eyes much better; the disease not disposed to spread. Temp., 98° F.; pulse, 90; respiration natural. I gave another injection, and ordered medicine at longer intervals. On the 9th I used the last subcutaneous injection; Temp. 98° F.; pulse, 84. I continued the medicines at intervals of five hours, with the powders lessened in quantity, and left enough to last her several days, but did not visit her again. On the fourth day the erysipelatous appearance hadvery nearly all left her face and scalp, so that she was looking quite natural, excepting the three places where the cuticle had been loosened from the disease previous to my first visit. During the four days I attended this lady, she had very little fever, and the only grave symptom manifested was a mild, wandering delirium during the first three nights, after which she was not troubled in that way. This nocturnal delirium had been present previous to my having seen her, else I might have attributed it either to the opium or carbolic acid.

I have been thus explicit in my report of this case that others may know exactly how to go to work in similar cases, and, also, that in my report of the two following cases I would not have to be so particular. I have never used the carbolic acid injection when other means were not used at the same time in conjunction with it. I have been afraid to take the chances; but that it is a very valuable adjuvant in the treatment of erysipelas, I no longer doubt. My note book at this date, January 3, 1878, now shows thirty cases treated subcutaneously in the same manner, including those formerly reported to the Illinois State Medical Society.

Case II. Mrs. M., German, a farmer's wife, aged 50. I was called to see her November 13th, 1877. I was told by the messenger who came for me, that "her face was as red as a rose, and her head as big as a bushel." I at once suspected the trouble, and therefore went prepared with the requisite materials. I found the woman truly in a critical condition. The erysipelas had commenced on the morning of the 10th, and rapidly progressed till her whole face and scalp had become involved. In her case I used nearly three drachms of the dilute acid, as a subcutaneous injection, and gave her the same prescription for internal use, as in the former case, with oleaginous solution of iodine as an embrocation to the skin. On the 14th, I was unable to visit my patient on account of indisposition; but my son, Dr. J. W. Whitmire, went to see her. He reported the pulse, 90; temperature, 100; not so much thirst, and the swelling somewhat reduced. He used two drachms of the dilute acid, and continued the same prescription, only ordering that if she slept at night, she should not be awakened. Nov. 15th, my son reported the case progressing favorably; used one and a half drachms of the dilute acid; continued former treatment. Two more visits were made, one on the 17th, the other on the 19th; at each visit the subcutaneous and other treatment was continued, only lengthening the interval of taking the iron mixture to five hours. At the last visit the patient was supplied with medicine to last for three or four days, and discharged convalescent. It must be remembered that the bottle containing the dilute acid for injection, was always set in a tin of hot water before use, and brought to a temperature of 98° F.

Case III. My last case of erysipelas was Mr. G. E.; sanguine temperament; American; carpenter; age, 56. He came to my office December 15th, 1877. He said his forehead and scalp as far back as the crown and back of the left ear, had been burning hot, and kept him uneasy during the whole previous night. There was some tumefaction and soreness, and the erysipelatous blush was very perceptible, so that the diagnosis was easily made. The disease was fairly in the process of development. I introduced the subcutaneous injection round the seat of disease and over the discolored skin, from the eyebrow to the region behind the ear. I used the oleaginous solution of iodine over the affected part, and gave: ℞ tinct. ferri chlorid. ʒiv., ammon. hydro. chlor., pot. chlor. āā ʒjj., quin. sulph. ʒss., syrup. simp. ad. fʒiv. Of this mixture he was ordered one tablespoonful diluted with water, during the day time, and also at night if he awoke. On the 16th, the swelling was so much reduced, that I did not resort to the injection again. I kept him on the use of the mixture, however, with the iodized oil for four or five days, when the discoloration and swelling had entirely disappeared, and my patient was well. This case is reported more particularly, because it is one of absolutely aborted erysipelas, and is a correct representative of nearly all of the thirty (30) cases that I have treated, in the interim, between it and the first case in which I used carbolic acid injections. Many of the cases which I have seen early, have been brought, I might say, to an almost sudden termination by the immediate application of the carbolic acid treatment; and in no single instance have I seen an untoward symptom arise from the tonic effects of the acid, not even when in one case I must have used, at least, five drops of the pure acid in a dilute state. Many of my patients complained, after its use, of a certain amount of numbness, or want of feeling in the parts subjected to its use. This I considered an anæsthetic effect due to the acid. In no case in which I have used this injection, has there been a sore or abscess formed, so that I may say that I have found carbolic acid, not only a safe and very valuable remedy, but almost a specific in the treatment of erysipelas. It seems to me that the thirty cases in which I have used this remedy so successfully, should be quite sufficient to recommend it to the favorable consideration of the profession.

OBSERVATIONS IN PRACTICE, SURGERY, GYNECOLOGY, AND ESPECIALLY OBSTETRICS.

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(*Read before the Indiana, Illinois and Kentucky Tri-State Medical Society, in Evansville, Oct.* 17, 1877.)

Continued from page 176.

Descent of Hand and Cord.—3 *Cases.*

9. The writer was called, June 18th, 1857, to see Mrs. R——, mother of several children, who was in labor. The waters had been drained off three days, the left hand and funis were occupying the vagina, and, as far as could be ascertained from a German midwife, who had been in attendance, had been down for 24 hours. The patient's strength remained good, the pains being strong and almost constant. Although, from the interval since the escape of the water, the case seemed unpromising, version by the feet was resolved upon. The hand being introduced, the right foot was seized and brought down, and the delivery completed in about 15 minutes. The child's hand returned spontaneously to the cavity of the uterus, as the feet came down. It had been dead apparently for 24 hours. The woman made a good recovery.

10. Mrs. P——, aged about 35 years, mother of several children, was taken in labor at 8 a. m., Saturday, January 1st, 1860, and the waters soon came away. The funis and hand were discovered in the vagina, by the midwife in attendance. The writer was called to the case at 2 a. m., on Monday, and proceeded to deliver by version. The right foot was secured and brought down, and the delivery accomplished with reasonable dispatch. The child was still-born, though action of the heart could be discerned for 15 minutes. The uterus contracted promptly, and the woman recovered well.

11. Mrs. G——, mother of three children, was taken in labor on the morning of January 2d, 1873. The right hand and cord descended into the vagina. The patient had taken ergot, and the ergotic pains were well established when the writer was called in,

this being at 10 o'clock, a. m. The right shoulder was pressed strongly into the superior strait; no pulsation was perceptible in the cord. The hand being introduced into the uterine cavity, the right foot was grasped and brought down without much difficulty, the occiput coming away in front toward the arch of the pubis. The placenta was soon delivered, and the uterus contracted well. Although the post partum indications were favorable, the woman failed to rally, and died in three days.

Face Presentation.—1 *Case.*

12. Mrs. C——, aged 34, had had four children; was taken suddenly in labor, on the night of March 24th, 1858. The membranes broke soon after the accession of labor pains. It was a face presentation, the forehead being posterior and to the right (3d position of the face), the chin anterior, and left of the symphysis pubis. The right foot being secured, was brought down first, and there was nothing untoward in the operation or the result. The woman and child both did well.

Neck Presentation.—1 *Case.*

13. Mrs. P——, 23 years of age, had had one abortion and one still-born child. She has had labor pains for the last ten days, sometimes with an interval of half an hour, and sometimes longer; was taken to-day, December 15th, 1875, with strong and frequent labor pains; the os uteri open, and the membranes protruded. The membranes were now ruptured, and the neck and occiput were found presenting at the superior strait, the head lying in the left iliac fossa. After the lapse of half an hour the scalp tumor became large and flabby, sufficiently so to indicate the death of the child; its movements had not been felt by the mother for a week. Considering that the labor had been pretty strong for several days, and the child failing to engage in the strait or promising soon to enter the basin, delivery by turning was supposed to be indicated. The left foot was secured and brought down, and the child taken away without undue trouble. The abdomen of the child was distended with gas, from putrefaction, and was hence its most bulky part, passing through the pelvis with more difficulty than did the head; the skin was loose

and readily peeled off; the child was nearly or quite mature. After some unpleasant reverses, probably from toxæmia, the woman at length made a good recovery.

Inertia.—2 Cases.

14. Mrs. R——, primipara, was seen December 19th, 1857; had been in labor eighteen hours; the child's head had receded from the pelvic brim; os dilated; the waters had been discharged for several hours; the patient was 20 years of age; the child large; the uterine contractions were becoming feeble. The hand was introduced into the uterus, the right foot seized and brought down, and the child delivered. The body came away without trouble, but there was delay in delivering the head. The child died during the operation; the woman's recovery was good.

15. Mrs. R——, aged about 29 years, primipara; was seen in consultation with Dr. Hatchett, at 8 o'clock p. m., March 10th, 1858. She had been in active labor thirty-six hours; the head was engaged in the superior strait, and remained in the same position four or five hours; os uteri moderately open, but rigid; child dead; pains rather strong, but not advancing the child from its position; head presentation, with the occiput anterior and to the left. The hand being introduced into the uterus, the left foot was secured, the turning effected, and the child delivered, the operation requiring about thirty minutes. The child was large, and appeared to have been dead several hours; the woman, having a good constitution, and having, previous to the labor, enjoyed good health, made an excellent recovery.

Shoulder Presentation.—3 Cases.

16. Mrs. S——, aged 40, mother of several children, has been in labor with moderate pains for several days. This day, December 3d, 1865, the pains have been strong for two hours; gestation of eight months' duration; os uteri moderately dilated and yielding, not without resistance, however; right shoulder presenting, with the head resting in right iliac fossa. The hand was introduced, the right foot secured and brought down, and the delivery effected without difficulty. The child was alive, but small and feeble, otherwise in good condition. On the expulsion

of the placenta, a second fœtus came away, apparently at the 6th month; it had probably been dead two months. The two placentas were adherent to each other, but had no vascular union; that of the dead fœtus exhibited fatty degeneration, that of the living child appeared normal.

17. Mrs. T——, aged 38 years, mother of seven children, has been in labor 24 hours, in charge of a midwife at first, afterward of a homeopathic practitioner. The writer was called to see her December 26th, 1872, at 12 o'clock, and found the left side of the head presenting, with the left shoulder pushed strongly into the pelvic basin, the head lying in the left iliac fossa. The patient had taken ergot, and her pains were strong and continuous; strength still good; the cord had been prolapsed three hours; the child was dead. By applying some force, the shoulder was pushed up, and the hand passed through the cervix-uteri; finding the left foot, it was secured and brought down, the blunt hook was used over the right thigh; there was some trouble in getting away the head, but finally the child was extracted, and soon followed by the placenta. The woman's condition after delivery promised a good result, but she sank and died four days afterwards.

18. Mrs. W——, aged about 25, mother of three children, has been in labor about eighteen hours. Dr. Forsmeier had been in attendance. The writer was summoned to visit her at 5 a. m., February 18th, 1873. The right elbow was found presenting at the superior strait, with strong uterine contractions; to verify the diagnosis the child's hand was drawn down. Turning being decided upon, the hand was passed into the uterus, after some resistance from uterine contractions, the right foot seized and brought down, and the child delivered. The child was dead, the cord being destitute of pulsation at the commencement of the operation; the woman recovered without further trouble.

Contracted Pelvis.—4 Cases.

19. Mrs. R——, German, aged about 25 years, first child; the sacro-pubic diameter of the brim was contracted. The writer was called to see her on Tuesday afternoon, April 28th, 1856. The woman had been in labor forty-eight hours, the first twenty-

four in charge of a midwife, the latter under the care of Dr. Carlstedt. The vertex presented at the superior strait, occiput posterior, uterus pretty firmly contracted around the child. The forceps were not used on account of the head being above the brim, and the tumid condition of the genitals. The hand was made to enter the uterus, and after some delay in pushing up the head, exploring the uterine cavity and turning the child, the delivery was completed. Drs. Carlstedt and Elliott assisted in the operation. The woman was left in good condition; the child was dead.

20. Mrs. S——, German, aged 40 years, had given birth to four children, two born dead and two living. The pelvis was contracted in its sacro-pubic diameter; she had been in charge of a midwife all day. The writer saw her at 6 p. m., May 14th, 1860. The waters had escaped three-fourths of an hour, funis in vagina, head at superior strait, but not engaged. The hand was introduced, the left foot secured and brought down, and the body brought away without difficulty; the head remained at the brim for half an hour, but was finally got away by aid of the vectis and blunt hook. The child was dead, but the woman was left in good condition.

21. Mrs. O. M——, aged 38, was taken in labor December 31, 1868; pains continued eighteen hours; the os uteri was well dilated, but the head did not engage in the superior strait; she had borne six children, all having been delivered by obstetrical operations, excepting, in one labor, when she brought forth twins, both being small. The pelvis was contracted and distorted, the sacral promontory being advanced toward the pubis, and inclining to the left side, thus dividing the entrance into the pelvis into two unequal halves. The membranes being still unbroken, and nothing contra-indicating, it was deemed advisable to proceed at once to delivery by turning. A still-born child was brought away in about half an hour; indeed, it appeared lifeless at an early period of the operation; the child was large, and the head passed the superior strait with much difficulty. The woman made a good recovery, and as will be seen further, was subsequently the subject of embryotomy.

22. Mrs. M——, aged 21, colored, who had borne one child,

which she stated had been delivered with much difficulty and dead, was taken in labor Monday, September 24th, 1871. Professors Casselberry and VanNuys were in attendance; strong pains continued uniil Tuesday, and then ceased; she had taken quite freely of ergot, probably enough to bring on its sedative effect on the uterus. On examination, the head was found low down, though still above the superior strait. The pelvis was distorted by the straits approximating together, and thus shortening the pelvic canal; the sacral promontory was also advanced toward the symphysis pubis, being opposite the pubic arch; the antero-posterior diameter measuring no more than two inches; the child was dead and putrid. Forceps were deemed inadmissable, from the pelvic deformity; the child was turned, and the feet brought down without difficulty; the delivery of the body and head however was attended with some delay and trouble, their delivery occupying about an hour; the blunt hook was used and the head perforated and reduced. The woman appeared to suffer no damage from the operation, but died however, eighteen hours after delivery. The cause of death is not known, but supposed to be from gangrene caused by injury from the protracted labor, possibly from simple exhaustion.

Flooding.—3 *Cases.*

23. Mrs. M——, about 25 years old, mother of three children, supposed to be eight months pregnant; has been flooding to an alarming extent, followed by signs of prostration, for an hour; no labor pains, os uteri dilatable, membranes whole; version was decided upon, on account of the hemorrhage. The hand was passed into the uterus, and both feet secured and brought down. Both child and placenta came away without delay or trouble; the child gasped for a short time, but finally expired, apparently from loss of blood. The hemorrhage ceased after delivery; the uterus contracted promptly, and the woman made a good recovery.

24. Mrs. A——, aged about 29 years, has generally enjoyed fair health; mother of three children; has had several miscarriages, attended with troublesome flooding; she was supposed to be at the full period of gestation. Hemorrhage commenced at 8 p. m., December 24th, 1861; a copious discharge, that resisted

the remedies used, caused an examination to be made, which revealed a slightly open and rigid os uteri; the labor pains were apparently coming on; at 10 o'clock the os was more dilated and dilatable; flooding still profuse. It was not considered safe to delay the delivery longer, consequently the child was taken away by turning as soon as possible; the patient, however, had sunk down and become pulseless, from loss of blood; the child was dead, exsanguine; the placenta, being free in the cavity of the uterus, was taken away. The patient was freely stimulated, and used opiates without avail; the pulse was slightly restored about two hours after delivery, but from this time the woman continued to sink, and ceased to breathe at 4 p. m. of the 25th.

25. Mrs. R——, aged 25, has had only one child; was injured by falling from a chair on which she was standing, at the end of seven months' gestation; there was some laceration of the external labia near the symphysis pubis, excessive flooding, with symptoms of prostration, feeble labor pains, os moderately dilated, but rigid; ergot and whiskey had been administered. The patient had been attended by Dr. E. T. Rennie. An effort to deliver by turning was agreed upon immediately after the writer had been called in, this being July 19th, 1870, whereupon the hand was passed through the membranes, after the patient had been brought under the influence of chloroform, the left foot brought down, and the child came forth without much trouble. The child was born dead; the flooding ceased, and the woman made a good recovery.

Eclampsia.—3 Cases.

26. Mrs. N——, 20 years of age, primipara, eight and a half months pregnant, became delirious last night, this being March 6th, 1859, seeing stars, accompanied with other delusions of vision; convulsions commenced about 8 o'clock this morning; the writer saw her about 9 o'clock, she having had three convulsions; she does not recover her senses well between the paroxysms; the pulse is strong, skin natural, condition comatose. About twenty ounces of blood having been taken from the arm, there was decided improvement in the circulation, with slight appearance of labor pains. On examination the os was found some-

what soft and dilatable; delivery by turning was considered to be indicated. The hand was passed through the os uteri, slowly and not without difficulty, dilatation being effected by cautious manipulations with the fingers; finally the hand entered the uterine cavity, the feet were secured and brought down, and the delivery completed. The convulsions continued after delivery, causing apprehensions of a fatal result; they finally subsided, however, and the patient recovered; the child, too, gave every promise of doing well. The woman was quite insane for a month, but recovered. She is now the mother of several children, and has had no subsequent attack of convulsions.

27. Mrs. B——, 32 years of age, mother of one child, has had labor pains, more or less, for a month, sometimes strong and frequent. Yesterday, May 15th, 1872, she had three convulsions; is of delicate and feeble constitution. On examination the os uteri was found moderately open and dilated. Dr. Casselberry had been in attendance, and he and the writer agreed that the labor should be promptly terminated by turning. After bringing the patient under the influence of chloroform, the hand was introduced through the cervix, meeting with considerable resistance from the rigidity of the os; the feet were secured, and a small male child was brought away. After a lapse of about fifteen minutes the child commenced breathing, and appeared to be in good condition. The mother almost ceased to breathe during the delivery of the child, apparently from the effect of the anæsthetic; placing her on the side, however, respiration was restored, and by the moderate administration of stimulants the pulse came up, so that an hour after delivery there was a fair promise of recovery. In the end the case resulted favorably for both mother and child.

Forceps.—13 *Cases.* *Inertia.*—9 *Cases.*

1. Mrs. F——, in labor, 1862, with the second child, the first having been delivered with forceps, has been suffering from chronic dysentery, with great tenderness over the abdomen; has had labor pains all day; child's head has remained in the same position at the inferior strait four hours; the head presents in the

first position. The forceps were applied and the delivery effected without accident. Mother and child both did well.

2. Mrs. F——, aged about 30, primipara, was taken in labor on the morning of January 19th, 1855, supposed to be at term; the head presented in the second position of the vertex, the membranes broke at 8 o'clock p. m. of same day; the head had descended to the floor of the pelvis by 10 o'clock, and remained stationary until 4 a. m. Dr. John T. Walker at this time was called in consultation, and delivery by forceps was agreed upon. The forceps being applied, the delivery was completed by 5 o'clock, the child coming away in good condition. The result was favorable for both mother and child.

3. Mrs. S——, aged 21 years, primipara, in labor February 17, 1859; labor pains had been strong for twelve hours; the child's head descended to the floor of the pelvis, and remained there without advancing, five hours; position of head, left occipit-acetabular. Further delay was deemed unsafe, the forceps were applied, and the child delivered; the child was alive, and both mother and child did well.

4. Mrs. D——, aged about 41, mother of two children; had been in labor under the care of a midwife all day; she was first seen by the writer at 10 o'clock p. m.; the pains had left her for two hours, after being good since 11 a. m. The head of the child was resting upon the brim of the pelvis, and had not entered the strait; occiput, left of pubis, in first position; the pelvis was small and the child's head large. The forceps were applied, and the child brought away without accident; child alive and strong, and the result all that could be desired.

5. Mrs. R——, aged 25, primipara, in labor December 19th, 1869; labor protracted, with symptoms of exhaustion; strong labor pains for eighteen hours; the head in the basin, above the floor of the pelvis, and ceased to descend; vertex presentation; the woman had been in good health; the child was large. Delivery by forceps was effected in fifteen minutes, under chloroform; there was slight central laceration of the perineum, which was measurably relieved by promoting granulation; the child was in good condition, and, upon the whole, the result was favorable for both mother and child.

6. Mrs. H——, aged 24, in labor eighteen hours, with first child, 12 M., March 29, 1871; had been in charge of another practitioner. The head was found in the basin, near the floor of the pelvis; no perineal tumor; the caput succedaneum was large and quite hard; the waters had been passed off four hours. After waiting an hour, and finding that the head did not advance sufficiently to give assurance that the child would be born alive by the natural powers, delivery by forceps was decided upon. The patient was already under the influence of the fluid extract of ergot, which had probably increased the force of the contractions, without advancing the labor. After securing partial insensibility by chloroform, the forceps were applied, and the delivery effected; the extraction of the head required the application of considerable tractile force; the head was in the second position of the vertex; the child was large; there was slight posterior laceration of the perineum; the child was alive, and the recovery of both mother and infant good.

7. Mrs. D——, aged 34, in labor March 6th, 1872; supposed her pregnancy had lasted ten months; has had labor pains off and on for two weeks; the os uteri was found open at 7 o'clock this morning; the labor continued with moderate pains until 4 o'clock p. m.; the vertex was at the lower strait, face in front, third position, with every indication of a large child. The forceps were applied, and the position changed by rotating the head from the third to the second position, and the child brought away, with but little difficulty or delay. The child weighed 11½ pounds; both mother and child did well.

8. Mrs. S——, aged about 20, primipara, taken in labor on the morning of August 29th, 1872; pains continued until daylight of 30th, then ceased entirely. Dr. Kennedy, the attending physician, had given a small portion of ergot, with some apparent effect. The head was found in the cavity of the pelvis; woman small; vulva rigid and contracted; the head above the floor of the pelvis: caput succedaneum very large. The forceps were adjusted without difficulty, and the head brought away be means of considerable tractile effort. The perineum was lacerated to, but not through, the sphincter ani, otherwise nothing untoward as regards the mother resulted; the child, however, being a large

boy, was asphyxiated, but finally had respiration established; unfortunately, however, at the expiration of an hour, it ceased to breathe.

9. Mrs. B——, aged 26, primipara, healthy excepting undue nervousness from domestic trouble; was taken in labor about midnight of February 11th, 1876; os tincæ open about 6 p. m.; the head of the child descended to the floor of the pelvis by 8 a. m., and remained in this position, with no perceptible change, until 11 a. m.; face of the child in front and toward the right acetabulum (fourth position of vertex presentation). The child was brought away by moderate traction by the forceps; slight laceration of perineum; child large, but weight not ascertained; asphyxiated for a few minutes. Finally, both mother and child made a good recovery.

Contracted Pelvis.—2 Cases.

10. Mrs. B——, aged 20, greatly deformed pelvis, distorted and contracted at lower outlet; taken in labor this Sunday morning, July 1st, 1860, the pains continuing all day; the waters escaped at 7 o'clock p. m., and the head descended to the floor of the pelvis by 8 o'clock. The head presented, with face anterior and to the left. The woman's strength had been reduced by frequent vomitings, during the last three months; the child's head remaining stationary, and the woman's health declining rapidly, it was deemed advisable to terminate the labor by the aid of forceps; this was accomplished without difficulty; the child was a large boy. On examination, the recto-vaginal septum was found to be lacerated low down; this injury could not be traced as having resulted from the use of forceps, as the instrument did not appear to press unduly upon the part injured; the passage of the large head of the child through the contracted lower strait, the occiput being posterior, probably gave rise to the accident. The mother and child were both saved.

11. Mrs. O'M—— is the patient referred to in case 21 of version cases. Her present labor commenced February 3d, 1855; she had previously borne two children, after difficult labors, both being still-born; pelvis contracted and distorted at upper strait, the brim resembling the figure 8, with the largest opening at the

left. The waters passed away, but the head remained at the superior strait; after waiting eight hours, the head still remaining stationary, with pains abating and the patient's vital powers on the wane, the forceps were resorted to; after some delay, and the application of strong tractions, the child came away; it was still-born, and weighed 12 pounds. The woman recovered without further accident.

Eclampsia.—2 Cases.

12. Mrs. O——, primipara, aged 20, in labor September 5th, 1855; seized with convulsions about 11 o'clock a. m.; head of child low in excavation; presentation and pains favorable. The head was delivered by the aid of forceps, the operation occupying fifteen minutes; laceration of perineum three-fourths of an inch, through which a stitch was applied. The patient had one fit after delivery, but both mother and child did well in the end.

13. Mrs. W——, 19 years of age, first child; had been in labor five hours, February 22d, 1868. Dr. E. T. Runcie was in attendance, and assisted in the delivery; the patient had two convulsions, with an interval of fifteen minutes, the last, one hour and a half ago; coma continued for nearly an hour after the fit; child's head resting on perineum; pains good; first position of vertex presentation. Delivery by forceps was effected, without trouble or loss of time; result favorable for both mother and child.

Cephalotomy.—2 Cases.

1. Mrs. M——, aged 34, primipara; pelvis contracted at superior strait; waters have passed off thirty-six hours; child apparently dead; head presenting at brim, where it has remained fixed for twenty-four hours; pains pretty good; the child was turned, and the body brought away without difficulty; the head failing to follow, the cranium was perforated posterior to the foramen magnum, the brain was scooped out, and by aid of the crotchet the head was taken away. The woman was uninjured, and made a good recovery. Date, October 19th, 1860.

2. Mrs. O'M——, about 42 years of age, has had several children, all delivered by artificial aid; pelvis contracted by

promontory of sacrum advancing toward symphysis pubis, and inclining to right side; was taken in labor September 29th, 1864, and was under the care of Dr. DeBruler. Dr. John T. Walker, and afterwards the writer, were called in consultation. The waters had been discharged about eight hours, the funis protruded externally and was devoid of pulsation, and had been so for several hours; the head was resting upon the pelvic brim. No care being necessary in regard to the child, it being dead, it was decided that the mother's welfare would be best subserved by immediate delivery; whereupon, the head was reduced by cephalotomy, and after an hour's exertion the child was brought away. In this case, after the head came down, the body was made to enter the upper strait with some difficulty; the child passed down on the left side of the strait, this side being less contracted than the right. Smallie's scissors, the crotchet and the blunt hook were the instruments used for effecting the delivery. The woman made a good recovery.

Remarks on Obstetrical Operations.

Version has generally been resorted to in vertex cases, when the head was still above the brim and immediate delivery became necessary, from the belief that it was safer for the woman than the forceps, that it could be practiced when an attempt at forceps delivery might fail, and that even to the child the danger from delivery by turning would be no greater than by the forceps when applied above the strait; and finally, because the operation in many instances would be more expeditious. Even after the head has descended into the excavation, and is still easily pushed up above the brim, turning has sometimes been preferred, especially where the child was dead. Turning, as compared to cephalotomy, has been regarded as safer for the mother, the cephalotomy being a dernier resort, and to be used only when turning is impracticable. In bringing down the feet, securing a single foot has been deemed sufficient, if for no other reason to save the valuable time necessarily consumed in searching for the second foot, and also from the belief that by leaving the second limb folded against the abdomen, some protection is afforded the funis against undue

pressure. Ample experience has convinced the writer that the delivery can be effected as well by securing one foot as two.

In placenta prævia cases, the indication has been supposed to be two-fold: 1, to arrest hemorrhage, that threatens the woman's life; and, 2, to save the child's life. To secure these advantages, delivery by turning as soon as it can be done, without using too much violence in the introduction of the hand, is the chief, if not the only resource. Therefore, at the earliest practicable moment, the hand is to be passed through the cervix into the cavity of the uterus, detaching the placenta from its connection as little as possible, and when the membranes are reached, the fingers are to be pushed through them, search made for the child's feet, or rather foot, which being brought into the vagina, the child is to be cautiously taken away. The operation need not be delayed on account of the absence of labor pains, nor of the immature state of the gestation. To wait in these cases for the natural process of labor, would result too frequently in the double loss of mother and child.

In craniotomy, after the brain has been removed and the cranium collapsed, it is frequently still best to resort to turning, and bringing the child away by the feet, this being safer for the woman than drawing it away head first, by means of tractions by the crotchet. In flooding cases, other than those of placenta prævia, turning by the feet will generally be found the most expeditious method of delivery, excepting, however, in those cases wherein the head has already been pushed into the pelvic basin by uterine contractions. Podalic version has been resorted to in puerperal convulsions, at as early a period as will admit of the introduction of the hand, not with the view that delivery will always cure the convulsions, but that evacuating the uterus removes a potent cause of irritation, and places the woman in a condition much more favorable to recovery.

As before stated, the forceps have not often been applied above the brim, this mode of using them, indeed, appearing more intended to show what may be done than for any special advantage or indication. After the head has passed the superior strait, as a general rule, the forceps will be the best and safest remedy; and, should the head have been pushed into the excavation by

strong pains, and yet its expulsion not promised by the efforts of nature, the forceps would be indicated, and turning should not be thought of. The writer has never applied the instrument to any other part of the child than the head; the barbarous practice of applying them to the pelvis, should the child be delivered alive, might so crush the bones as to endanger permanent damage to the pelvis. The forceps, then, being applied to the head only, should be as nearly as practicable adjusted to its sides. The writer has never met with a case in which application over the face and occiput was necessary; when convenient, the blades have been adjusted to the sides of the woman's pelvis, but this has been deemed less important than to permit much obliquity in their application, as regards the child's head. Indeed, in oblique positions of the head, which constitute more than 90 out of 100 of the cases, it is impossible to apply the instrument squarely to both pelvis and head. When practicable, the forceps have been removed before the escape of the head from the vulva, to avoid laceration; but this practice is more easily recommended than followed, inasmuch as the moment the head has engaged fairly in the outlet, it will frequently escape through the vulva, even before the operator finds himself able to remove the instrument. Doubtless lacerations are more frequent than they otherwise would be, in consequence of this failure, but in most cases requiring the use of the forceps lacerations would be liable to follow a natural delivery.

Cephalotomy has been recommended by the writer, only in those cases in which neither turning nor forceps could be made available. It is not regarded as a safe operation for the woman, and when a fatal result is avoided she is necessarily exposed to more or less danger of laceration about the cervix and vagina, so that after the bulk of the child's head has been reduced by the evacuation of the brain, the delivery may be completed more safely and more expeditiously by podalic version than by tractions with sharp and powerful instruments. In addition to this, we may urge the risk of bruising and tearing the soft parts by drawing away fragments of the fœtal skull, that are almost certain to become loosened during the transit of the head.

When the cephalotribe is required in extreme contraction of

the straits, a resort to turning will generally be inadmissible, from the difficulty or impossibility of drawing a full-sized child through the pelvic canal. When, indeed, it is found necessary to use this instrument to crush the head, its power will generally be required also to reduce the other bulky parts of the child.

DOUBLE OVARIOTOMY.

By Samuel C. Plummer, M. D., Rock Island, Ill.

(*Read at a Meeting of the Iowa and Illinois Central District Medical Association, held at Davenport, Iowa, January* 10, 1878.)

On the 10th of October, 1877, I received the following letter from Dr. J. B. McLaughlin, of Delmar, Iowa:

"Dear Sir: My wife is suffering from what I think is an ovarian tumor; we are very anxious about her. Please come and see her at your earliest convenience. Let me know when you can come, and I will meet you at the station."

In compliance with this summons I visited the patient on the 13th of October, when I learned the following history of her case: Her age was 48 years; she had borne fourteen children at twelve confinements, having had two twin labors. Her health during this time had been good, with such exceptions as are common to child-bearing. Her last child was born in February, 1874, after which time menstruation had been irregular for twelve months, when it ceased entirely. After this, for six months she enjoyed the best of health. The menses then recurred, as was supposed at the time, in consequence of over-exertion. For a period of five or six months the flow would continue for from three to six days, and from seven to ten days would elapse during which time she was free from the discharge. About this time she began to suffer from cystitis, micturition was very painful, the pain in the bladder constant, and at times so acute as to be almost unbearable. In the month of January, 1877, the cystic trouble ceased and the menstrual flow became almost continuous, much of the time very profuse. In April an enlargement was perceptible in the right iliac region, which increased rapidly in

size, displacing the abdominal viscera, and by the first of August it filled the entire right side of the abdomen, from the iliac to the hepatic region. It was nodulated; fluctuation in it could be detected, and its outline was easily traceable for more than two months before I saw the patient, and such was her condition when I first visited her on the 13th of October. I made a careful examination and found the abdomen greatly enlarged, too much so I thought to be exclusively caused by the tumor occupying the right side, and still there were no external signs of a second tumor, nor could I detect any by external manipulations. She however complained of greatest pain in the left iliac region; in fact there was little or no pain or tenderness on pressure on the right side. She was suffering from a very troublesome and exhaustive diarrhœa, which, with the uterine hemorrhage, was prostrating her very rapidly. She had no appetite; food she ate from compulsion, and she only slept when under the influence of large doses of soporific medicines. Such being her condition, I could find nothing to justify a hope that it could be bettered without operating for the removal of the tumor or tumors. I therefore advised that the operation be made as soon as possible.

Owing to the absence from home of three sons, a married daughter and a son-in-law, she determined not to have the operation performed till such time as they could all be with her.

Four days after (October 17th) I was notified that everything was in readiness. On the 18th, with Drs. Eyster and Carter as assistants, I proceeded to her home, and made the operation on the morning of the 19th.

Dr. Eyster administered chloroform, and when the patient was sufficiently anæsthetized, I made the usual incision along the linea alba, only large enough to ascertain to what extent, if any, adhesion resulting from peritoneal inflammation existed. The exploration developing no adhesion, I continued the incision up to within less than half an inch of the umbilicus, and down to within about the same distance of the symphysis pubis. This done, a second tumor came plainly into sight. At first, I was in doubt as to its character; its position was so nearly central, and its surface so smooth and glistening, that I was apprehensive it might be the uterus in a condition of fibroid enlargment. An

exploration, however, soon satisfied me of its true character. It as well as the other tumor was incysted, but the cysts on its anterior surface were so pressed into contact with the abdominal walls as to give it a perfectly smooth and glistening appearance.

The next step in the operation was to dislodge the upper tumor, the one on the right side; but it was so large that it could not be brought through the incision. I therefore resorted to paracentesis of the cysts to reduce their volume. In order to accomplish this, four of the largest cysts were emptied; each contained from three to five pints of opalescent fluid mixed with pus. I used a long curved trocar and canula, and by this means prevented any part of the fluid from escaping into the peritoneal cavity. Having thus reduced its volume, the tumor was extricated. The pedicle was long, no doubt stretched by the upward pressure of the other tumor. Dr. Carter held this in position, and I proceeded to dislodge the other. I found it adherent over a large surface of its outer or left side, the adherent surface being as large as the palm of a man's hand. Having broken up these adhesions, I found that it also was too large for extraction through the incision, and in my effort to accomplish this, a large, and fortunately the anterior, cyst ruptured. It was so far raised, however, that its contents escaped over the abdomen of the patient, little, if any, finding its way back into the abdominal cavity. The contents of this cyst were entirely different from those of the other tumor, being composed of dark or coffee-colored gelatinous matter and pus. This sac also showed a high state of inflammatory action, and I have no doubt would have ruptured, and allowed its contents to escape into the abdominal cavity, within a very few days. Having completely sponged out this sac, I proceeded to drain others with the trocar and canula, until its volume was sufficiently reduced to allow it to be brought through the opening. I then used the "Atlee clamp," on the pedicle of the first or upper tumor, amputated and removed it. Then I passed a strong silk cord, double, through the pedicle of the other, tying it each way very tightly, and amputated above, sufficiently far to prevent slipping, and dropped it back into the abdominal cavity, bringing the ligatures out at the lower point of the incision, and safely fastening them on the abdomen and hip with adhesive strips.

Having passed a strong silk thread through the canula, the trocar was inserted and the instrument thus armed was carefully carried down into the cul-de-sac of Douglas, directed by the hand. With the index finger of the right in the vagina, the thinnest part of the partition was found, when an assistant forced the instrument through the vaginal wall. The thread was caught in the vagina and, with the canula held in position, the trocar was withdrawn. The drainage tube tied to the abdominal end of this thread was then drawn through the canula, through the vagina, and when the vaginal end protruded from the vulva an inch or more, it was fastened to the thigh by ligature and adhesive strips. The canula was now withdrawn and the abdominal end of the drainage tube was coiled and dropped into the cul-de-sac of Douglas.

The drainage tube used was made of very fine, soft india rubber, somewhat less than 3-16 of an inch in diameter, the caliber being about 1-16 of an inch and fifteen to eighteen inches in length. Perforations were made into this tube with spaces of one to one and a half inches between each, its entire length. The drainage was perfect and very profuse. The tube was accidently dislodged on the third day after the operation but the drainage continued through the puncture, gradually deminishing, until it entirely ceased in about four weeks from the time the operation was made.

The operation being completed, thus far, the edges of the abdominal wound were brought together and held by interrupted sutures, and long bands of india rubber adhesive plaster. Lint wrung out of hot water was applied over the abdomen as warm as could be borne and over this was spread a piece of oiled silk large enough to cover the entire abdomen.

The temperature of the room was 70° throughout the time of the operation, notwithstanding which the patient was chilly when it was completed. I therefore ordered bottles filled with hot water put into the bed about her feet and legs, and had additional bed clothing spread over her. She soon rallied from the effects of the chloroform and when we bade her good-bye at fifteen minutes before eleven o'clock in the forenoon, she expressed herself as feeling very comfortable.

The solid matter, with a portion of the contents of the tumors,

weighed eighteen pounds. I believe they, with their entire contents, would have weighed at least twenty-five pounds. Before leaving her I administered one-third of a grain of sulphate of morphia in solution by hypodermic injection; this was done in anticipation of the pain to be expected when reaction was established. I also directed dressings of lint, wrung out of warm carbolized water, to be applied, and continued over the abdomen; the oiled silk to be kept on over this dressing, and the temperature of the room to be kept as near as possible at 70°. All these directions were faithfully carried out by the husband of the patient, Dr. McLaughlin, until she was so far recovered as not to require their strict observance.

I was apprehensive for the welfare of my patient because of the severe and extensive peritoneal inflammation found present on opening into the abdominal cavity. The peritoneal covering of the intestines and of the omentum, that lining the abdomen on the left side and that covering the tumor of the left side, was in a state of highly acute inflammation. This inflammation was so extensive and acute that Drs. Eyster and Carter agreed with me in considering the chances for recovery as being against her.

When Dr. Eyster commenced administering the cloroform, Dr. Carter was watching and timing her pulse, which was one hundred and sixty per minute; small and irregular. It improved under the influence of the chloroform, and when she had rallied from its effects, after the operation was completed, it was one hundred and twenty, more regular, and its volume much improved.

Her condition was reported to me from time to time as follows:

"October 20th, 5½ o'clock a. m.—Your patient has recovered nicely from the effects of the chloroform; vomited some during the night; was thirsty and drank, we think, too much water; is thirsty yet, but has not vomited in the last two hours; she felt better and easier during the night than she has for many days prior to the operation, and is now free from pain. We gave hypodermic injection of solution of morphine at 2 o'clock this morning. Indications all favorable so far, and we hope they may continue so. There is profuse discharge from the vagina. Yours truly, GEORGE E. MYERS."

Mr. Myers, a son-in-law of the patient, is a student of medicine, and with his wife, took care of the patient during the first night after the operation.

"Oct. 21st, Sunday morning.—Patient was very restless during yesterday; at 6 o'clock p. m, her pulse was 140 per minute, very weak and irregular. She vomited some during the day; had hiccough; was very thirsty; had clammy perspiration; was very restless, and it required a larger quantity of morphine than usual to produce quiet. She had good refreshing sleep during the night; pulse 112 this morning; the hiccough and vomiting have nearly ceased. She has taken some nourishment and feels better.

"Oct. 22d, Monday morning.—She rested well during last night. Her pulse at 6 o'clock last evening was 100 per minute; is 100 this morning, soft and regular. She thinks she must have something to eat. The drainage during yesterday and last night was very profuse. The drainage tube came away last night; it is not known what brought it away; she thinks the violent efforts in vomiting dislodged it. The drainage continues through the puncture. The wound of the abdomen looks well. She urinates often; her bowels have been moved this morning, the first since the operation. Yours, etc., J. B. McLaughlin."

"Oct. 23d, 6 o'clock a. m.—Patient is feeling as well as could be expected; pulse 100 per minute, regular, full and soft; appetite improving, vomiting and hiccough have entirely ceased. Skin moist, urinates frequently; bowels have not moved since yesterday morning; complains of some pain where the tumors were and at the sutures; a little pus discharging at the sutures. The drainage continues, but diminished in quantity, and is higher colored.

"Oct. 24th, morning.—We are greatly encouraged. Patient ate all she was given yesterday and relished her food; has very little pain this morning; discharge from drain is gradually diminishing; urinates freely; bowels have not been moved; slight flatulency; pulse 100, full and regular; symptoms all good.

"Oct. 25th, Thursday morning.—Pulse 94. She did not rest so well last night; complains of pain in the incision and in left side; urine has a strong ammoniacal odor; bowels have not been

moved. I will administer an enema to-day; her strength is gaining, has appetite enough.

"Oct. 27th, morning. Her bowels were well moved on Thursday evening. I feel very much encouraged this morning; drainage continues; pus discharging from incision and from the clamped pedicle; urine not so strongly ammoniacal; pulse 96 last night and the same this morning, soft and regular."

This is the last report I received from the doctor as he met with an accident that will be explained in the following reports, written by his daughter. The accident resulted in the loss by amputation of the middle finger of his right hand.

"November 1st.—Mother is doing well. The clamp came off on Sunday morning (October 28th, nine days after the operation was performed). While cleansing the clamp, father pricked the middle finger of his right hand with one of the pins. During Sunday night, he had frequent chills; has suffered pain all the time since. We think he is in greater danger than mother, and want you to come and see him as soon as possible." I went in compliance with this summons on the afternoon of November 1st, and found the doctor in great pain; the hand and forearm much inflamed and swollen, however, not so seriously but that I hoped the finger could be saved. Mrs. M. was feeling so well that she was anxious to leave her bed and sit up in a chair.

November 2nd.—I again visited the Doctor and his wife, and gangrene having set in, amputated the finger at the metacarpo-phalangeal joint. Found Mrs. M. doing well and feeling well.

"November 7th.—Mother is still improving; the ligature came away yesterday morning (Nov. 6th, eighteen days after the operation); the wound is nearly closed, discharging very little pus. Father's hand is doing well."

I received letters from time to time from the daughter, informing me as to her mother's condition, which was as satisfactory as could be desired up to the 5th of December, when I was summoned to see her on account of cystic trouble. On my arriving at her home, I learned she had been suffering greatly for about a week; only was able to bear the pain when under the influence of large doses of morphine. Micturition was attended with intense

pain, and she was unable to retain the urine more than ten to fifteen minutes; the quantity voided amounted to from two to four or five drachms each time.

The urine on examination with the urinometer showed a specific gravity of 20°; litmus paper showed an excess of acid. Epithelial débris could be seen floating upon its surface; tests by acid and boiling showed the presence of albumen and but little if any sugar. She was without appetite for food and had nausea, tongue heavily furred, abdomen swollen and tympanitic, bowels constipated, the liver and spleen enlarged and painful on pressure. The wound of the abdomen was entirely healed, and there was no tenderness over the site of the ovaries removed, but great pain on pressure over the bladder. The drainage through the puncture by the vagina had entirely ceased. I advised powders of opium and calomel, one to be given every two hours, and a dose of castor oil ten hours after taking the last of the powders.

I recommended also the use of f. ext. of pareira brava, or an emulsion of balsam of copaiba, after the bowels had been well moved by the cathartic. Also injections of tepid water with morphine into the bladder.

"December 10th.—Mother is quite comfortable this morning. She passed gravel last night."

This calculus was about an inch in length, and three-eighths of an inch in its greatest diameter, tapering from its middle to its extremities, both of which were rounded; its surface was rough, grayish in color, fragile and soluble in muriatic acid.

To the use of the drainage tube I credit the recovery. It perfectly performed its purpose, and without it I am fully persuaded success would have been impossible.

The quantity of sero-sanguineous matter discharged through the tube while *in situ*, and after its dislodgment through the puncture, was simply enormous for the first seven or eight days. The quantity was too great to have been taken up by absorbent action, and this great quantity too, escaped after every means had been used to prevent the escape of fluids into the abdominal cavity, and after all that could be removed with the long, pointed, hard rubber syringe, used for such purposes, had been evacuated.

After this excessive discharge had ceased, the drain continued for some three weeks, diminishing each day until it entirely ceased, and the puncture closed.

In every instance where death has resulted from ovariotomy, so far as my experience goes, and so far as I have been able to learn from others, septicæmia has been the cause. Therefore, to prevent death from that cause, the drainage tube should be used. It should be used in every case, no matter how favorable and how promising it may be, for without it no patient is free from that danger, and with it that danger is almost, if not entirely, avoided.

I consider it, to say the least, hazardous practice to ligate the pedicle or pedicles, cutting the ligatures short, and dropping them with the stumps back into the abdominal cavity; for in very many, if not in all cases, the ligatures thus left are the cause of much irritation, if not, as is generally the case, of peritoneal inflammation, with its consequences. When recovery does follow such practice, it is slow, often not until the ligature has sloughed its way through the vaginal or intestinal walls.

In this case, I attribute the recovery, first, to the perfect drainage of all matters from the peritoneal sac that could, by remaining there, have resulted in septicæmia; and, second, to the withdrawal, after separation, of the ligature used on the stump dropped into the abdominal cavity.

DEATH FROM ETHER AND CHLOROFORM.

By Henry Van Buren, M. D.

(Reported to the Chicago Medical Society, January 21st.)

Mrs. B——, aged 32, American, had suffered from fistulæ in ano for six months. On the 22d of November last, I operated on her, finding at this time two artificial openings into the rectum, one on either side of the anus. Dr. A. Groesbeck administered the anæsthetic, which consisted of equal parts of sulphuric ether and chloroform. The operation was performed in a few seconds. The patient exhibited no alarming symptoms while under the influence of the anæsthetic, and revived in the usual time.

On the morning of the 30th of November, eight days after the operation, I desired to make a thorough examination of the wounds and renew the dressing, and in this, as in some of the previous dressings, the patient insisted upon partial immunity from pain. To this end I commenced to administer upon a napkin two parts of sulph. ether and one of chloroform. After a few inhalations the patient became violently intoxicated, and resisted with great force all efforts to quiet her, demanding in the language of one in delirium, to be let alone. I immediately ceased to administer the anæsthetic, and with great effort prevented her from jumping from the bed. The face became at first turgid, the whole body convulsive, and in a few seconds the patient was dead.

All of the means usually resorted to, were employed to restore action of the vital functions; artificial respiration, elevating the lower extremities, dashing cold water in the face, drawing forward the tongue, spirits of ammonia applied to the nostrils, and finally a galvanic battery, which was conveniently at hand, but to no avail.

I have to say in justice to the record of this case, that the patient had for many years habitually partaken of opium. At the time of her unfortunate death, she could take at each dose, from two to three grains of morphia. During the time she was under my care, one half grain doses of morphia were prescribed at proper intervals, but she asserted that this quantity did not sufficiently support her, and through her nurse and by stealth, she secured additional quantities from the neighboring drug stores, and took the same daily without my knowledge or consent.

I am now of the opinion that the patient had taken an unusally large dose of morphia on the morning of her death; and that the combined influence of this overdose, and the additional paralyzing effects of the anæsthetic caused cardiac syncope, and that this was the cause of death.

Whether there was structural lesion of the heart or not I am unable to state, as no post mortem examination was made in this case, and I had suspected none in my previous knowledge of the patient.

There are one or two criticisms which may be made by mem-

bers of this society, and as I anticipate them, I may be permitted to say in advance, what is to be said in support of the points probably in issue.

Among medical men in the United States at the present day, there is a pretty general belief that sulphuric ether alone is the safer anæsthetic. The belief, I think, is more the outgrowth of popular opinion than of any scientific knowledge of fact.

In England, where there are certainly men who are the peers of members of the medical profession in our own country, no such preference exists for ether, but rather for chloroform.

The *London Lancet*, of November 17th, contains a report of a death at Lincoln, England, from pure sulphuric ether, which occurred in the practice of Dr. G. M. Lowe. The anæsthetic was given with great care, under the most favorable circumstances, and that too with only a few inhalations. This case is reported also in the *Med. Record* of New York, Jan 5th, 1878.

A member of this society reported a case of death from ether less than a year ago, which occurred in his hands in the Illinois Eye and Ear Infirmary.

It was the practice of Dr. Daniel Brainard, up to the time of his death, to use as an anæsthetic equal parts of chloroform and ether.

Dr. Moses Gunn personally informed me that, although he now used ether, for twenty years he had used chloroform only, and that without a single death.

In 9,000 of the earliest cases of its inhalation at St. Bartholomew's Hospital, it is reported that there was not one death.

M. Fleureur states that it was administered without one casuality to 25,000 French soldiers in the Crimean war.

I do not, however, present these facts in support of any claim that chloroform is the best agent. It no doubt has some advantages and other disadvantages, and it is possible that ether is the safer of the two. As my case stands, it is two against ether and one against chloroform, unless the combination acts some important part.

Again, it may be said that an anæsthetic should not have been given to a patient under the influence of extraordinary doses of opium. To this, I reply that I was not aware that more than

half grain doses had been taken. Nor am I ever able to determine, to any degree of nicety in confirmed opium eaters, the amount they may have taken.

My conclusions are these: That while an ordinary dose of opium or stimulant is undoubtedly in some cases an advantage, prior to administering an anæsthetic, ether or chloroform is given with more or less hazard in habitual opium eaters.

THE INFLUENCE OF BROMIDE AND IODIDE OF POTASSIUM ON GASTRIC DIGESTION.—Dr. Putzeys, after a series of experiments in artificial digestion, in which he substituted hydrobromic and hydriodic acids for hydrochloric acid, concludes *Bulletin de l' Acad. de Belgique*, 1877, xi.) that hydriodic acid, whatever its proportion in the digestive fluid, cannot replace hydrochloric acid, because its action is more feeble and slower. Moreover, he believes that the iodide and bromide of potassium will not be received with equal tolerance if they are ingested at the time of gastric activity; hence it is in every respect preferable to administer these salts, and especially the iodide, a half hour or an hour before meals, when the stomach is empty and its surface is covered with a layer of neutral or even alkaline mucus.

CHANGES IN THE MEDICAL STAFF OF COOK COUNTY HOSPITAL.—Dr. H. A. Johnson lately resigned his position of attending physician at the Cook County Hospital, and under the new rules, was transferred upon the consulting staff. The Medical Board assigned Dr. Johnson's place to Dr. Wm. Quine, heretofore one of the gynæcologists of the hospital, and nominated Dr. Norman Bridge to succeed Dr. Quine. This nomination is now in the hands of the conference committee, to be submitted to the County Board for approval.

GERMANY has 4,416 drug stores, or about two to every 100 square miles, and only one to 10,000 inhabitants.

Clinical Reports.

NOTES FROM PRIVATE PRACTICE.

A Case of Ovarian Tumor pronounced too feeble for Ovariotomy and reported cured by the Galvanic Current from the Author's Large Battery.

Certain Chicago surgeons will remember being present at 249 E. Indiana street, June 11, 1877, to witness the operation of galvanization of a fibroid tumor of the uterus. The tumor was multilocular, abdominal and pelvic, evidently connected with the uterus. They will also remember examining the case and concurring in the diagnosis of fibro-cystic disease of the uterus; also, that when the patient was etherized, the writer introduced an electrode into the abdominal tumor. It was evident at once that a mistake had been made, since a microscopical examination revealed the presence of Sluge's compound cell and Drysdale's ovarian cell. The writer stated that he thought it advisable to proceed no further, as the battery, containing nearly thirteen square feet of surface, was inapplicable to this kind of cases.

It was advised to use the writer's small copper and zinc battery on the outside of the abdomen. This has been done, I am informed, and the tumor had not increased at last accounts. It is difficult to retract advice previously given, but in this case it must be done. I was wrong and ought to have proceeded with the operation; that is, if anything is to be learned from the following history:

Early in December last, Dr. Frank K. Paddock, of Pittsfield, Mass., wrote me that Dr. G. A. Pierce, of Lebanon Springs, N. Y., had cured a case of ovarian tumor with my large battery, which belongs to Dr. Paddock, and was loaned to Dr. Pierce for

the purpose. This I could hardly believe, as it was entirely contrary to the opinion I had entertained as to the proper use of the battery in question.

Under date of Dec. 27, 1877, Dr. P. wrote substantially as follows: "Miss Norton, aged 34 years, took cold Sept. 1, 1875, while menstruating. She was quite sick at the time, and noticed a bunch over the right ovary. It gradually increased in size. She consulted her brother, a homeœpathic physician, and took medicine without relief. Jan. 2, 1877, she was very large, and Dr. Pierce examined her and pronounced the case ovarian. She was advised to consult Prof. Vandeveer, of Albany, N. Y., an acknowledged authority in these cases. Dr. P. accompanied him, and after a critical examination, Dr. Vandeveer concurred in the diagnosis. On the ground that the patient's health did not admit of ovariotomy, Prof. Vandeveer advised Dr. Pierce to employ the large battery. July 20th, 1877, Dr. Pierce tapped and withdrew 23 lbs. of fluid. Aug. 18th (twenty-nine days afterwards) she was as large, if not larger, than before she was tapped. This day the electrodes of the writer were introduced through the abdominal parietes and the current applied for ten minutes. Six other applications were made up to Nov. 6th, using a progressively longer time, so that for the last three applications the current was continued for half an hour. There was a marked diminution of the fluid after each application, and on Nov. 6th there was no more fluid in the sac. Dec. 3d, Prof. Vandeveer examined her at Albany and found her cured.

Jan. 10th, 1878, Dr. P. writes: "The fluid gave the characteristic test for fat and albumen. It contained the so-called ovarian cell, neutral reaction; sp. gr. 1020." Dr. Pierce adds, "No sign of filling as yet." In a private note Prof. Vandeveer confirms the above, and says there is no doubt of the ovarian character of the sac, and of the cure."

REMARKS.—This case should not be relied on until it has stood the test of time. Prof. Vandeveer writes that he will report the case in full, and for this report we shall look with interest. This abstract is made to correct the advice formerly given in a similar case.

E. CUTTER, M. D., Cambridge, Mass.

1. *Treatment of Diphtheria.*

I have successfully treated several very severe cases of this much dreaded disease, with chlorine water, prepared as suggested by Dr. Matthew Gairdner, and used as a drink instead of water, *ad libitum*, combined with potassic chlorate, tincture of the chloride of iron, tincture of belladonnna, each ℥ iv; hydrochloric acid, strong, gtt. xx; water and simple syrup, āā ℥ i. Dose, twenty drops to one drachm, according to age, every two hours. Alternating with this a gargle was employed, composed of potassic chlorate, in saturated solution, ℥ iv, carbolic acid, gtt xx. No caustic applications were made. The false membrane disappeared much sooner (in about 36 hours), not being reproduced, and more favorable progress was made under this than any other treatment I have tried. Some of the peculiar sequelæ supervened. No deaths occurred. It will be seen that the principal agent in the above treatment is chlorine, and the younger children, who could not use the gargle, seemed to make just as rapid recovery as the others. The free administration of milk was insisted upon. No quinine or stimulants given except in one case.

2. *Belladonna in Spermatorrhœa.*

A case of the above disease of four years' standing, occurred in a farmer, aged 40, married. He was affected during cold weather, but not in summer. Voluntary erections and sexual intercourse became impossible during the continuance of the disorder, and these symptoms had persistently resisted homeopathic treatment, but yielded readily to the following: Potassic bromide, ℥ ss, fld. ext. belladonna, gtt. viij. at bedtime each night, and fld. ext. nux vomica, liq. potass. arsenit, āā gtt. v, after each meal. He was told to sleep upon a mattress instead of feathers, with light covering, to keep his mind constantly occupied, frequently changing occupation, and partake freely of nutritious unstimulating food. His condition when he applied to me was truly deplorable. Not having been able to have intercourse since last October, he suffered almost nightly from emissions, was depressed in spirits, and had loss of appetite, constipation, wandering pains, excessive palpitation of heart, in fact almost all the symptoms of an aggra-

vated case. On the sixth night after treatment began, he having had no emissions for five nights, I advised an attempt at coition, which he successfully performed, and has repeated since. The normal habit thus being established, seems to have displaced the abnormal. He is feeling much better in every respect.

Bromide of potassium alone has not succeeded so well in my hands, perhaps because administered to single men, to whom I could not conscientiously advise sexual intercourse at stated intervals.

H. L. HARRINGTON, M. D.,
Jan'y 22d, '78. *Warren Co., Ills.*

A Case of Diphtheria Benefited by the Inhalation of Steam and Terminating Fatally.

I do not report the following case because of any peculiarity in its treatment, but to show the advantage that may be derived from the inhalation of steam in the treatment of diphtheria, and to indicate that a case otherwise progressing favorably may suddenly terminate fatally from a cause not reasonably to be anticipated. I refer to death during a favorably progressing convalescence from syncope or paralysis of the heart. I had conducted many cases of this disease to a favorable issue, and had regarded convalescence as a safe indication that the patient was out of immediate danger before the experience here gained. The sudden and unexpected result of this case led me to search the literature of the subject more carefully, and I find but one author who alludes to this source of danger in a manner that would excite apprehension or necessitate a guarded prognosis. Flint, in his work on practical medicine, refers to this source of danger in the following language: "A fact important to be borne in mind is the liability to sudden fatal syncope in this disease. This has occurred unexpectedly in two cases under my observation. It may occur in cases which, as regards the general symptoms, do not present any appearance of great gravity. It generally occurs on some unusual exertion, as in getting out of bed. It has been known to occur during convalescence." Oertel, in his exhaustive article on diphtheria, in Ziemssen's Cyclopædia of Practical Medicine, refers to paralysis of the heart as a cause of sudden death, but does not advise a decided prognosis.

Clifford C——, aged seven years. On September 8th, 1877, this little patient was attacked with soreness of throat and vomiting; pulse 140 per minute; skin dry and pungent. An examination of the throat revealed greatly enlarged tonsils covered with pus, the uvula elongated and œdematous, presenting a glistening appearance. I used spray of carbolic acid to the throat, and ordered a saline purgative and the tincture of aconite root in one drop doses every hour.

Sept. 9th.—Pulse 135; tonsils almost free from pus, but the uvula very much enlarged and completely encased in a diphtheritic exudate. I continued the aconite at longer intervals, and ordered sodic hyposulphite, tincture of iron and potassic chlorate in doses sufficient to bring the system rapidly and completely under their influence.

Sept. 10th.—Pulse 135, and the entire fauces covered with diphtheritic exudate; the tonsils are enlarged till they meet and push the uvula forward on the tongue; discontinued the aconite.

Sept. 11th.—Pulse 135, and feebler.

Sept. 12th.—Pulse 135, denoting asthenia; slight delirium. Continued the treatment of the previous days with the addition of stimulants.

Sept. 13th.—Larynx involved by extension of the inflammation; breathing labored and stridulous; increased the amount of stimulants, and ordered the temperature of the room to be kept as nearly as possible at 80° F., the atmosphere to be kept thoroughly charged with steam. The effect of steam in this case was most gratifying, not failing in a single instance to mitigate the paroxysms of painful and difficult breathing. The air of the room was kept constantly moist with steam, and when the paroxysms of difficult breathing occurred, the steam generator was placed at the bedside so that a dense volume would envelope the head and face. This plan of treatment was continued throughout the next forty-eight hours, during which time his condition remained very much the same.

Sept. 16th.—Patient worse; death from apnœa seemed imminent, but during the day a part of the membrane was dislodged by a violent effort at coughing which afforded great relief in breathing.

Sept. 17th.—Patient better; breathing easy and unobstructed. Prescribed tonics and stimulants in conjunction with nourishing diet.

Sept. 18th.—Patient continues to improve.

Sept. 19th.—Very much better; begs for food.

Sept. 20th.—Vomited during the night from taking too much solid food; prescribed pepsin and hydrochloric acid.

Sept. 21st.—Vomiting checked, and the appetite good. The patient, under a restorative plan of treatment, continued to improve until the evening of the 24th, at which time, upon being lifted out of bed, he instantly turned pale, the surface became icy cold, and he died within six hours.

R. M. WILSON.

LINCOLN, ILL., Jan. 17, 1878.

Partial Extirpation of the Parotid Gland.

Miss S.——, a school teacher, had suffered for some time from a tumor under the left ear, which was painful at times, and had a decidedly malignant "feel;" had been steadily, though slowly, increasing in size until May 1st, 1877, when it came under the observation of Drs. Hoyt and King, of Hudson. Upon May 15th it was decided to operate for the removal of the diseased growth, which proved to be nearly the whole of the parotid gland. Patient being anæsthetized and a "T" shaped incision made over the tumor, one incision from the "lobule" downwards for about two inches, and one horizontally from mastoid process of temporal bone to one and one-half inches in front of the ear, its lower border and the flaps were dissected up, when the tumor was exposed. Then manipulating very carefully with the handle of the scalpel the diseased tissues were separated from the adjoining structures to which they were quite intimately adherent, until the vagus nerve, external carotid artery, and external jugular vein were plainly exposed to view, great care being exercised not to destroy any more of the filament of the facial nerve than was absolutely unavoidable. The tumor being thus carefully loosened from its bed a ligature was thrown around its pedicle and its connections severed. The hemorrhage was inconsiderable after having ligated a small branch from the facial artery. The wound

was closed by four or five stitches, healing kindly in about ten days, except a small fistulous opening which discharged the natural secretion of the gland remaining. This was cauterized several times with nitrate of silver, and finally its edges were scarified and strapped closely together with adhesive plaster when it closed entirely, and up to the present date (Feb. 15, '78) no return of the disease has shown itself. There was only very slight paralysis of the facial muscles. F. W. EPLEY, M. D.

NEW RICHMOND, WIS.

Blepharospasmus, Caused by Excessive Efforts of Accommodation.

On November 24, 1877, Charles L., aged 12 years, was brought to my office with a pronounced blepharospasmus. He could not hold his lids still for a second; they were opening and closing in rapid alternations. These spasms of the orbicularis muscles had been lasting five days, and the boy was obliged to leave school. His father observed that the winking was less in the dark, but grew worse in bright light or by the attempt at reading. There was no external inflammation about the eyes; the media were perfectly clear; fundus normal; but the ophthalmoscope showed a degree of hypermetropia (1-18). The boy was in good health, and had not been sick before; but through hard study he had evidently overtaxed his power of accommodation and produced a state of morbid excitability of the ciliary muscle, and, as a secondary disturbance, the spasmodic action of the lid muscles.

The ciliary muscle, quieted by atropia, the blepharospasmus disappeared, so that on November 27 the eyes appeared as natural as ever. Then the sight could be tested; it was found that the boy could read test types No. XX. at 20 feet better with +18 than with the naked eye. He was directed to use glasses for reading and writing. F. C. HOTZ.

PROF. LISTER is now using and recommending horse hair for drainage. He prefers it to either rubber tubes or catgut.

Society Reports.

CHICAGO SOCIETY OF PHYSICIANS AND SURGEONS.

REPORTED BY JUNIUS M. HALL, M. D.

Regular meeting at Grand Pacific Hotel, Jan. 28th, 1878, the President, Wm. H. Byford, M. D., in the chair.

At the last meeting of the society held at the rooms of the Chicago Medical Press Association, it was moved by Dr. Bevan, and unanimously passed by the society, that the next meeting be held at the Grand Pacific hotel. The secretary was directed to see Dr. W. Godfrey Dyas, and give him a special invitation to read his paper upon the lymphatic system at the next meeting. After the reading and acceptance of the minutes of the last meeting, Dr. Dyas was presented to the society by Dr. Byford, who remarked it was hardly necessary to introduce a gentleman, so long a resident in Chicago, and one so well known to the profession. The paper read was the first one of a series of four which the Doctor has been a number of years preparing, and was exclusively devoted to the anatomy of the lymphatic system. Frequent reference was made to the French and German investigators, but by far the most confidence was placed in the investigations of the great French anatomist, Sappey.

Eristratus (under the Ptolomies in Egypt) was the first discoverer of the chyliferous vessels, in the vivisection of kids, and mistook them for arteries.

Subsequently another anatomist traced them from the intestine to their termination in the mesenteric gland, and concluded they belonged to the veinous system.

Until the early part of the 17th century, the lacteal vessels

were supposed to pass directly to the liver, but at this time they were found to pass uninfluenced by the liver until they reached the subclavian vein. John Hunter concluded from experiments, that this system *exclusively* presided over absorption, and this was the prevailing opinion until Magendie in France, and Tiedemann in Germany, proved that the veinous system participated.

In regard to the origin of the lymphatics, he groups the opinions under three heads.

1st. Lymphatics are closed at their origin.

2d. They are not closed, but communicate with the corpuscles of the connective tissue.

3d. They are not closed, but communicate with what Recklinghausen calls the plasmatic channels.

These vessels must pass through a ganglion or lymphatic gland, "a necessary condition of every lymphatic vessel." In man, it is impossible for a lymphatic vessel to reach the general circulation without passing through at least one gland.

Recklinghausen places these connective tissue corpuscles in their relation to the lymphatics, in the lacunæ or slits of the fibrillary substance of the connective tissue. These lacunæ are stellate spaces, the points anastomosing with each other by means of minute capillaries, which form loops, and also anastomose with the sanguineous system of capillaries, and thus communicate with the general circulation. The diameter of these capillaries is such, that nothing can pass through them from the blood vessels but serum.

Formation of white blood globules. The lacunæ are found filled with very fine granulations, rudiments of future white blood corpuscles, which are carried along into the larger lymphatic vessels. In contradiction of the statement made by some authorities, that the glands alone are the special organs for the formation of these organs, he states the following:

1st. White blood globules are found in the blood of some of the vertebrata that possess a lymphatic system, but no glands.

2d. White blood globules or leucocytes may be seen in the lymphatic system, at the distal end before they reach any gland.

"We are all aware that the lymphatic system terminates in "two trunks. The thoracic duct, which commences at the second

"lumbar vertebra, passes to the left side of the neck, forming "there an arch, and opens into the left subclavian vein, where it "unites with the internal jugular. The other, the great right "lymphatic vein, terminates in the right subclavian, where this "unites with the jugular vein."

Do the lymphatic trunks communicate with the veinous system elsewhere? Do the lymphatic capillaries and the sanguineous capillaries unite in the glands?

In the absence of positive knowledge we must take facts from comparative anatomy. As we ascend in the scale of the vertebrata, the communication between the lacteal vessels and the veins becomes more and more restricted. When we reach the mammalia, we find the following characteristics assigned them.

1st. Greater development of valves.

2d. Distinction of the lymphatics into two layers, superficial and deep-seated.

3d. A considerable number of ganglia and more limited communication with the veinous system.

"At the present time few anatomists maintain the communica-"tion in man of a lymphatic trunk elsewhere than at the junction "of the subclavian and internal jugular veins."

Do the two systems communicate in the glands? Tiedemann and Fohrmann think so for the following reasons: "The marked "contrast between the number and size of the lacteal vessels and "the small caliber of the thoracic duct. The continuation of life "when the duct has been obliterated. The passage of chyle into "the sanguineous system when the mesenteric glands are affected "by tubercularization provided those nearest the intestinal canal "are unaffected by disease."

Some authorities claim they can inject the veinous capillaries in the glands from the afferent vessels. Cruveilhier, Carpenter and Sappey deny this. "When the injection thus pushed is seen "in the veins, it is the result of a rupture which easily takes place "when the gland is softened from commencing decomposition, "but in every instance where injection was made in a gland fresh "and free from decomposition, the efferent vessels have been filled, "but not the veinous capillaries."

Prof. Nelson spoke of the relation of the lymphatic capil-

laries to the epithelium and sanguineous capillaries, a fact which had hitherto escaped his attention. Where you find the pavement epithelium, you have the lymphatic capillaries directly beneath, and below them, the vascular network. This is invariably the rule, with the exception of the mucous membrane of the lungs. Where you find the columnar epithelium, you have the vascular network directly beneath, and then the lymphatic vessels.

How this relationship influences disease, Dr. Dyas will show at some subsequent meeting.

A vote of thanks was given Dr. Dyas for his very interesting paper, and the Society hoped he would again favor them at some future meeting.

Dr. Byford spoke of the pleasure it gave him to see so large a number present, and then referred to the recent small attendance and lack of interest manifested by the members of the Society. Thinking it might be due to the change of the place of meeting, he asked for an opinion of the Society in regard to it.

Dr. Hamill said he had no hesitation in saying he had been deterred from attending the meetings because he did not feel able to climb the stairs necessary to get to the rooms of the Press Association. He moved that the meetings of the Society he held hereafter at the Grand Pacific Hotel.

Unanimously passed by the Society.

The Society then adjourned.

Regular meeting, Monday evening, February 11th, 1878.

Dr. Bevan in the chair.

The Secretary read the minutes of the last meeting, which were accepted by the Society.

Prof. D. T. Nelson was admitted as a member of the Society, by a unanimous vote.

The remainder of the evening was devoted to the report of the section upon nervous and mental diseases.

The first paper read was by Dr. P. S. Hayes, and consisted of a condensed abstract of recent investigations and experiments upon the pneumogastric nerves, by foreign investigators.

M. Tripier, in comparing the action of the right and left

pnuemogastrics, says the right pneumogastric appeared to act more especially on the heart and the left on the lungs, but with some variation, according to the species of the animals. Section of one of the pneumogastrics would cause death. Two cases of death in man, after division of the right pneumogastric, are on record.

Prof. Langendorff observes that the influence by which reflex actions are exhibited may start either in the brain or in the periphery. The cerebral form is the function of a certain part of the brain, and during life is in a constant condition of mean tension. Experiments show that this function is not confined to the lobi optici, but that the cerebral hemispheres are implicated, and that the inhibitory reflex power of the brain is an essential factor of the intelligence.

Prof. F. Lusanna and F. Ciotto give the results after dividing both pneumogastrics in a dog, the animal living eighteen days. No signs of suffocation (respiration slow and deep) indicating that the vagi are not necessary for the maintenance of respiration, although modifying respiratory movements. No hyperæmia nor atelectasis, indicating that the vasomotor supply of the bronchi is, at least partly, sympathetic. Heart's action accelerated. Digestion affected chemically and mechanically. Œsophagus and stomach paralyzed.

M. Onimus says an ordinary Faradic current will be interrupted about the same number of times nervous shocks can be transmitted along special nerves. Striped muscles usually respond well to the stimulus, but the automatic and rhythmically acting organs require some numerical relation to be observed between their rhythm and the stimulus, or the effect will be perturbation instead of increase of function.

If this should prove true, it may be a very valuable and efficient mode of applying electricity in case of chloroform poisoning.

Dr. H. M. Bannister gave, with some general remarks on the disputed points in regard to the functions of the brain, a résumé of some researches by MM. Pétres and François Franck, and remarked on their bearings on the questions in dispute.

Dr. Charles E. Davis reported three cases of insanity occurring

in private practice. One of them, a very interesting case, followed gunshot wound of the sympathetic in the neck.

Dr. Curtis presented to the society an intestinal calculus, phosphatic, about the size of an ordinary bean, recently removed from a young man who had died from typhlitis. He followed with some remarks upon the rarity of the affection in man, and its frequency in some species of animals.

The meeting then adjourned.

CHICAGO MEDICAL SOCIETY.

Regular meeting, Monday, January 21, 1878. President Dr. E. INGALS in the chair; 23 members present.

Fibro-sarcoma of lower lid; Extirpation and Plastic Operation. Dr. F. C. Hotz exhibited a patient aged 54 years, who had come under his care one week ago. He had under his left lower eyelid a round tumor of the size of a quarter dollar; its upper circumference reaching within one-eighth of an inch to the free edge of the lid. The tumor had been growing from a small wart to its present size during the past two months. It was excised and the triangular defect was covered by the sliding of a flap of integument borrowed from the malar-temporal region. All wounds were closed by fine silk sutures and healed by first union. The morbid growth which was also exhibited was limited to the cutaneous tissues, showing a marked hypertrophy of the papillæ and under the microscope the structure of a fibro-sarcoma.

Heart-disease and Embolism.—Dr. M. H. THOMPSON read an elaborate history of the following case: The patient, aged 41, was admitted to the Woman's Hospital and on Nov. 12th, delivered of a seven month's child. It was her third pregnancy. For six years she had been subject to epileptiform convulsions. With the exception of a slight chill on the fourth day the patient was doing well until the fourteenth day, when she had a slight fainting fit supposed to be one of her epileptic attacks; she was found on the floor with the whole right side paralysed and no pulsation

in right arm and foot nor in the right carotid artery. Patient became comatose and died on the eighteenth day after confinement.

The autopsy showed a narrowing of the left auriculo-ventricular opening so as to admit only the point of a finger; but there was no calcification. A large white fibrinous clot in the left ventricle adhered to the wall. A clot was also found in the right common carotid, the right vertebral and left middle cerebral arteries.

(The report did not state whether the right subclavian and right iliac or femoral arteries had been examined in order to detect the causes of the interruption of circulation in right arm and leg. R.)

Death from a Mixture of Ether and Chloroform.—DR. H. VANBUREN reported the death of a lady, aged 32, and a confirmed opium eater, from the inhalation of a mixture of two parts of ether and one part of chloroform. The patient, as the doctor learned *post festum*, had taken a large dose of morphia a few hours previous to the administration of the anæsthetic. No autopsy. [The full report of this case will be found on p. 268–271 of this number of the JOURNAL AND EXAMINER.]

Some general remarks were made by a few members concerning the relative safety of ether and chloroform, and then the discussion turned chiefly upon the use of chloroform in labor cases.

Regular meeting, Monday, February 4th, 1878. President DR. E. INGALS in the chair; 15 members present.

Syphilitic Lesions of the Nerve-Centres.—DR. S. D. JACOBSON read a paper which in a very able manner presented the present state of knowledge of the subject.

Owing to their curability the luetic affections of the cerebrum do not often give an opportunity to examine into their anatomical basis. But we may judge of the cases cured from analogy with those that end fatally. In those cases we find lesions of various kinds and in different localities; changes in the bones, the membranes, the nerve substance, and in almost any locality; often they are multiple, sometimes result after pathological processes to be found also in non-syphilitic patients, as hemorrhages, inflammations, anomalies of nutrition; partly are they of a more specific character, especially gummata.

Heubner was the first to call attention to the changes in the cerebral arteries in syphilis. They undergo changes in the thickness of their walls, in their capacity and permeability—changes which of course were often overlooked at the post mortem. The alteration of circulation produced by those morbid arteries explains the symptoms and especially their multiformity and variety. In this manner we may understand why severe symptoms sometimes appear suddenly, and that owing to the removal of obstacles to the circulation, the worst incidents admit of a speedy amelioration.

For the diagnosis of the syphilitic nature of cerebral disorders it is very important to establish the infection and the previous or present existence of other syphilitic symptoms. And yet we must bear in mind that a syphilitic patient may become afflicted with cerebral disorders which have no relation to the constitutional disease. It would, therefore, be very desirable to establish the diagnosis from the nervous symptoms, or at least the prevalence of certain symptoms over others. But unfortunately there is not one single symptom which is, per se, pathognomonic of the syphilitic nature of a nerve lesion. Every anomaly of function which depends upon cerebral or spinal trouble may be found in cerebral lues, and every single symptom which is found in the latter, may also be found without syphilis. Lues may produce disorders of sensibility and motility of every description, from the slightest abnormal sensation to the most intense pain; from a scarcely perceptible numbness to a complete anæsthesia of every organ of sense; every variety of involuntary movement to epileptiform convulsions, and again, debility from the slightest degree up to complete paralysis of every cerebral or spinal nerve; insomnia as well as somnolence unto the profoundest coma. Disturbance in the psychical functions, abnormal excitement unto raving mania, as well as dullness of various degree of the memory, of the mental power, of the judgment, of the will power to complete dementia. In all of those cerebral and spinal symptoms there is nothing specific to syphilis, either in mode or in degree.

We may suspect a syphilitic basis of nervous symptoms if they appear suddenly without any apparent direct cause; if they exhibit a peculiar incompleteness in their development, as, for in-

stance, epileptiform convulsions without loss of consciousness; and especially if symptoms appear in a combination which cannot be produced by one single diseased focus (for instance: ptosis in one eye and paralysis of external rectus of the other eye; paralysis of the motor oculi and of the facial nerve of the other side; convulsions with paralysis). Very suspicious also are the rapid changes of character in the symptoms, such as are found only in one other disease, i. e., hysteria.

In many cases we find for some time insignificant symptoms which are often overlooked, and disappear from time to time; such are fainting spells, sudden but momentary aphasia, a sudden neuralgia. On account of their momentary duration the patient himself generally pays but little attention to them. This stage we may consider a premonitory stadium. More severe troubles now set in, generally in a sudden apoplectiform manner; such are fainting, sudden aphasia, epileptiform or apoplectiform attack, sudden partial paralysis, blindness; or they may increase in number rapidly, as acute mania or melancholia, stupor, intense headache or other neuralgia, choreic and cataleptic fits, paraplegia.

Quite frequently we observe symptoms which in non-syphilitic affections of the nerve centres indicate impending dissolution (as stupor, aphasia, hemiplegia) in specific cases disappear spontaneously in spite of the poor general condition of the patient; also that parts which first appear paralysed regain their mobility, while in the opposite half of the body a ptosis, a paralysis of the arm or the like may appear, so that the gravest symptoms alternate, which never could take place, if dependent upon an extravasation of blood or other destruction of the corresponding cerebral locality.

With the exception of the most acute and the too inveterate cases, cerebral syphilis stands a fair chance for successful treatment; spinal lues much less so. By an energetic treatment with iod. potassium or mercury assisted by hot sulphur baths, we generally have it in our power to alleviate the worst symptoms and very often to cure the case. In fact it may justly be said of a patient with severe cerebral symptoms, that his chances for a cure are infinitely greater if he be syphilitic, than if he is not. Many cases that do not seem to improve much in their homes,

improve rapidly if sent to hot springs in combination with specific treatment. In spinal syphilis our success is much rarer and less complete.

In the discussion of the essay Dr. LOGAN developed his view of the nature of constitutional syphilis in the following words: That there exists a specific virus in connection with each of the contagious diseases, endowed with the property of reproducing itself, there can be no doubt. But his conception of it was not that of an entity which diffuses itself throughout the system. The virus represents in its molecular construction a certain type of morbid action and has the power of inducing and continuing this action in an economy which has not already undergone it. When this virus is brought into contact with a healthy person, it at once sets up an action which ultimately results in assimilating the whole molecular structure of the subject to that of its own. A man, therefore who has had a non-recurrent contagious disease, atomically and molecularly considered, is a different individual from the one he was before the attack.

Entertaining these views of the whole class of contagious diseases he had no faith in efforts to eliminate from the system the poison of syphilis; and our specific remedies for that purpose, were only operative against the morbid movement involved in the diseased action which we called syphilis. The disease is constitutional from the moment the specific virus begins to induce molecular change in the contiguous structures; and the primary sore is but the focal expression of the general disease. Why the former should appear at the point of application of the virus is applicable upon the same basis which underlies the production of the vaccine pustule at the point of virus insertion. The theory of a mere local irritation was barred by the inability to produce a second specific sore upon the same person by inoculation with the specific virus of the first.

Regular meeting, Monday, February 18th, 1878. President Dr. E. INGALS in the chair. Twenty-nine members present.

Shall the forceps be applied with reference to the pelvis or to the position of the child's head? Primary or secondary operation for ruptured perinæum? A discussion on these two ques-

tions followed the report of a case of protracted labor, related by Dr. S. BAKER. The woman had been in pains over 24 hours; the os uteri was dilated; pelvis narrow and child's head very large. Labor pains did not succeed in expelling the head. Chloral in 40 gr. doses had no effect; ergot failed. The doctor then tried to apply forceps with regard to the head, but failed; while, when afterwards the instrument was applied with reference to the pelvic cavity, the blades could easily be locked; a complete rupture of the perinæum resulted, but the wound was immediately closed by deep silver sutures.

Dr. VANBUREN expressed his preference for applying the forceps with reference to position of head, and for the immediate application of sutures to a ruptured perinæum.

Dr. T. D. FITCH thought the weight of authority was in favor of applying the forceps with reference to the pelvis only. The position of the head could be improved in many cases by external and internal manipulations. As to perinæal lacerations, he considered the secondary operation the more judicious procedure, because the new shock by the immediate operation upon the already exhausted nervous system of a puerpera might—and in the only case in which he did the primary operation, the doctor thought it did—have a fatal effect; also the necessity of a continued constipation would act unfavorably upon puerperal patients. While on the other hand, he did not find that the exposure of a large raw surface to the puerperal secretions increased the danger of puerperal fever.

Dr. MARGUERAT followed the very simple rule: Apply the forceps the best way you can, and if they lock, you may be sure they are properly applied.

Dr. MAYNARD had found ergot not so infallible in its action as most physicians were disposed to believe. In one case, the contractions of the womb ceased after the expulsion of the child, and could not be induced by external and internal manipulation, ice in utero, ergot and electricity; but they were speedily and energetically produced by one ounce of whisky. When the effect of this dose was spent, the uterus began again to relax, and nothing short of a repetition of the dose of whisky would stimulate it.

Dr. E. F. INGALS mentioned a case of post partum hemorrhage, due to atony of the uterus, which was speedily arrested by injections of hot water.

Before adjourning, the president appointed a committee of three to confer with a similar committee of the Society of Physicians and Surgeons, in reference to uniting the two medical societies, and suggesting such changes in the plan of organization as they might deem practicable.

AT the Quarantine convention in progress during the past month at Jacksonville, Florida, in which the principal seaboard cities of the South were represented, a resolution was introduced by Mayor Tucker, of Norfolk, Va., and unanimously adopted, urging that the government co-operate in the proper enforcement of quarantine by requiring weekly reports to be transmitted by United States Consular officers to the Surgeon General of the Marine Hospital Service at Washington, stating the sanitary condition of their respective ports, particularly with reference to the presence or absence of contagious or infectious disease, weekly abstracts of these reports to be furnished the sanitary authorities of every seaboard city and town; and by further requiring said officers to report immediately the departure from an infected port of any vessel bound to a port of the United States. This resolution is in accordance with the recommendations made by Surgeon General Woodworth in his report relative to the cholera epidemic of 1873, published in 1875, and in a paper on the general subject of quarantine, read before the International Medical Congress at Philadelphia, in 1876. The value of timely warning as an aid in preventing the introduction of yellow fever, cholera, etc., cannot well be over-estimated, and by the system suggested in the resolution of the Quarantine Convention at Jacksonville, it could be secured by already existing means at a trifling expense. (*Washington Evening Star.*)

Original Lectures.

PARALYSIS AND CONVULSIONS AS EFFECTS OF DISEASES OF THE BASE OF THE BRAIN.

DELIVERED IN CHICAGO FEBRUARY 21ST, 22D AND 23D, 1878.

BY DR. BROWN-SÉQUARD.

(Reported for the Journal and Examiner.)

FIRST LECTURE.

GENTLEMEN: One of the propositions I have in view in this course of lectures, is to try to open a new view of the therapeutics of this subject. Yet, although this is one of my purposes, I will say that only a part of the three lectures will be given to that peculiar object of this course. Not that there would not be a great deal to be said on that point. On the contrary, I delivered once sixteen lectures on that very small part of the lecture to be delivered here. But it is more important precisely to bring you to understand what those individual views about treatment can be and are now. It is more important perhaps to dwell at length, as I need not say, upon the nature of convulsions as related to disease in the base of the brain. It is more important to do so because of the very few who will follow out the facts which I have to introduce on these two subjects of paralysis and convulsions. These views will give the key and render you able by yourselves, without my assistance, to follow up in your own practice the general principles of treatment which I will mention in the third lecture.

I now come at once to what is to be the subject of the two lectures. And to begin with, there is, as you well know, a pretty general acceptation at present of the views that have resulted from the experiments recently made by Hitzig, Flint, and other physi-

ologists, as regards the existence of certain centers in the convolutions of the brain. I do not intend to give much time to that part of the subject; but it is quite essential that I should say that taking these new views together with the old ones, it is now admitted, as you well know, that paralysis in cases of disease of the base of the brain, as well as in diseases elsewhere, occurs from the destruction of tissue in parts which are employed here as centers for volition or conductors of volition. Paralysis, therefore, is considered as the direct effect of the disease existing in the part of the brain as found in the autopsy. As regards convulsions in cases of brain disease, they are construed now by a great many physicians as dependent upon putting in play the nerve cells where the disease is, especially when there is disease of the surface of the brain, when there is disease in the motor zone of the brain and behind the fissure of Rolando.

Convulsions are thus considered as being the manifestations of the properties and functions existing in those parts. I will have to show, by-and-by, that this last view, as well as those relating to paralysis are absolutely false. For the present, to continue this exposition of what is admitted, I will say that since the time that paralysis has been observed to come usually in the side of the body which is opposite to that of the seat of the lesion in the brain, it has been considered that one side of the brain is the mover of the opposite side of the body. This I will contradict absolutely; and perhaps some arguments which I will bring forward will convince you that the view must be given up.

It is admitted also that decussation, which we know to exist at the foot of the anterior pyramid of the *medulla oblongata*, contains most of the voluntary motor nerve fibers, and after the discovery of the anterior pyramids the explanation came of what was known before this, that paralysis in the left side of the body is caused by disease in the right side of the brain. A series of facts, which I am glad to have published, which I collected right and left (a very few seen by myself also), seem to corroborate these views. I will first mention a few of these facts so as to show you how the question stood before I began to criticise not only the views generally admitted, but the views I had helped to establish.

If you take the case of disease of one of the *cerebra*, it is usual,

as you well know, (if it is the right *cerebrum*), that the left side of the body will be paralyzed while the right will escape altogether. Such facts seem to show that if decussation exists, as is supposed, it is certainly below that part. Conceive that decussation takes place in the *crura cerebri*, that this decussation contains fibers which are employed in voluntary movements, you could not say, as is observed almost always in these cases, that the paralysis is limited to the side opposite to that where the disease is in the brain. It is easy to understand this point. [Exhibiting a drawing on the blackboard.] It is necessary to destroy the fibers belonging to the two sides of the brain. Although the lesion is on the left side, it destroys the fibers coming from the left side going into the right side, and destroys the fibers coming from the right side and going into the left side. Therefore, if the decussation of the voluntary motor conductors is there, you would not see, as is seen, this complete paralysis of the opposite side, and no paralysis at all on the corresponding side.

The same argument can be applied as regards the *pons varolii*. Many anatomists have selected the decussation of the fibers of the left *pons varolii*, and you know certainly that a good many physiologists admit that the fibers that decussate there form a part of the voluntary motor apparatus. But the same argument that I used a moment ago would show that we must reject the view that is admitted. [Drawing an illustration on the blackboard.] I will make this fiber come from the left side, and another from the right side. If they decussate it necessarily destroys the fibers belonging to the two sides of the brain. There ought to be paralysis of two sides, although the lesion is on only one side. I collected, in two papers published long ago, something like forty or fifty-five cases of disease of half of the *pons varolii*, showing that paralysis was located, in all cases, only on the opposite side; so that these facts seem to be clearly in opposition to the view that there is decussation at that place. The conclusion which I drew from these facts was that the decussation takes place only in the *medulla oblongata*. The arguments seem extremely powerful, but, as you will see in a moment, other facts have come since, which corroborate the facts I have mentioned. There is no doubt whatever that, in cases of lesion above the anterior pyramids which

produces a paralysis on the opposite side only, and not at all on the side corresponding—that this is a very strong argument in favor of the view that if decussation is necessary, if the voluntary motor conductors decussate somewhere in the base of the brain, that decussation occurs below the *pons varolii*, or in the *medulla oblongata*. This is certainly easily seen. It was admitted for a long time, in our century, indeed, or about twenty years ago, that if paralysis comes on the opposite side of the disease in the base of the brain, it exists on the opposite side because decussation takes place only in the anterior pyramid and produces paralysis on the opposite side, though there are exceptions. I will try to prove (and in very few words and few arguments, because the time is so short), that the views I have to propose are absolutely different from these.

In the first place I will try to show that one half the brain is perfectly sufficient for the movement of the two sides of the body.

In the second place I will try to show that a few fibres establishing connection between one side of the brain and the spinal cord, are perfectly sufficient for most of the movements of the brain.

In the third place, contrary to what is now admitted, as regards instances of certain so-called psycho-motor centers, I will try to show that an agglomeration or cluster of cells located in the immediate part of the brain, the cells employed in moving for instance the arm, and serving therefore for a center, or the leg or any other important mass of muscles—I will try to show that such an agglomeration of cells does not exist anywhere, and that the cells which are employed in moving the arm for instance, are scattered all over the brain, so that destruction may take place in any part of the brain without any paralysis of the arm; all these cells, however, serving to move the one limb, or any other part, being connected by fibres so as to establish a normal state of communication between all those which have the same function.

I will show, or try to show, something more, which is that it is not any mere nerve current going from the cells of the brain which is employed in moving muscles—not merely a nerve current going

from those cells straight to the muscles which are to be moved, when movement is performed. I will try to show that it is absolutely essential to admit that through a very few of these wires, which we call nerve fibers, a real telegraphic message is sent to cells which execute the movement according to the order conceived in the message, and therefore that voluntary action is entirely different from what it has been imagined to be.

As regards paralysis, I will say that it does not appear, as I have admitted for many years, to result from a destruction of the parts endowed with the function that disappears. Paralysis comes from something quite different. If you take, for instance, a case of disease in one of the *crura cerebri* which I have named, it is not because conductors employed in voluntary efforts are destroyed by the disease which we find there; it is not for that reason that paralysis appears. It is because irritation starts from the place where the disease is—irritation propagated through cells to a distance, so as to act on these cells in the same way that we know the *par vagum pneumogastric* acts upon the cells that move the heart when the *par vagum* is galvanized. In other words, paralysis from brain disease, either when the disease is in the base or elsewhere, I will show to depend upon an influence exerted by the disease on parts at a distance, so as to stop the activity of the cells in it that produce the functions which disappear. It is not where the disease is that we find the real paralysis exists. The paralysis is distant from where the disease is located.

As regards convulsions, the very same thing exists. I will try to show that convulsions appear to result from spasms of irritation, beginning at the part where the disease is, and acting on cells at a distance so as to put them in play. In other words, as regards those two kinds of phenomena, it is association of activity of muscles, or putting the muscles into great activity. These two states of symptoms depend on something quite similar. Irritation in the two cases, beginning with the disease, is propagated to cells at a distance so as to do one of two things, that is, stop the activity of the cells and produce paralysis, or to put these cells in play, giving rise to a discharge of nerve force producing convulsions.

Now, that you have face to face the two theories, the old and the new, I will proceed to the demonstrations, or to attempt the demonstrations.

In the first place, one of the facts on which it has been supposed that a decussation takes place in the *medulla oblongata* (which decussation comprises the mass of nerve fibres employed in the voluntary movements)—a fact which I have not mentioned, and which seems to be extremely favorable to the views admitted generally, is that in cases of brain disease, especially in cases in which the middle lobe is affected, there is a secondary degeneration which starts from the place of the disease, thus coming from the *crura cerebri*, reaching the *pons varolii* on one side, and then one of the anterior pyramids, and then changing its direction passing into the posterior part of the lateral parts of the spinal cord. For a time, when this was discovered by Bichât, it was thought the arguments were in favor of the voluntary motors decussating in the anterior pyramids. As there is a notion that when the cells from which the motor fibres originate are destroyed, that the motor fibres will degenerate, it was supposed that the motor bundles in the *crura cerebri* had their cells of origin in the place of the disease, and that their degeneration was similar to what we find when a motor nerve is divided, as Waller had established. But you will see what difficulties there are.

In the first place (if we look upon the anterior pyramids as being what I with others supposed for a long time the channels of orders of the will to the muscles) we are led into strange contradiction with experimental facts and clinical facts relating to the spinal cord. The anterior pyramids, as is well demonstrated, after passing into the lateral parts of the spinal cord do not pass into the anterior columns. Both physiological and clinical facts, and many more clinical facts than even experimentation, have shown that the lateral columns are not the channels through which the voluntary motor fibres pass to the muscles. I know that recently Ludwig and a pupil of his have tried to show that the lateral columns contain most of the fibres; but it is difficult to admit that there are no mistakes in his experiments, as all other physiologists have ascertained that section of the lateral column is invariably followed by paralysis of the other side of

the body. We have performed the experiment many hundred times, and never saw the least trace of paralysis. But it is quite certain that in a part of these cases all the lateral columns had been divided. But, I repeat, clinical facts are more peremptory. There are many cases in which the lateral columns have been destroyed, either by a tumor or by cutting, when there has been no paralysis at all. So that it is quite certain that the fibres of the lateral columns of the anterior pyramids cannot be the parts through which the orders of the will pass to the muscles.

As regards the secondary degeneration, the argument is strong against the view that the pyramids are channels or instruments of the orders of the will to the muscles. As we see, the secondary degeneration takes place only in the posterior part of the lateral columns. It is not the lateral column that degenerates; it is only those that are near the origin of the posterior nerves. So that we can look upon the secondary degeneration as being degeneration of the voluntary motor conductors. And the argument is very strong in this case that if paralysis occurs together with secondary degeneration, it is not the fibers which are employed in moving the muscles; it is not the fibers which are paralyzed that are so degenerated. There must be other fibers which do not seem to have degenerated at all, which have lost their function. Indeed these two series of facts relating to the experiments and clinical facts, relating to the lateral columns of the cord, all those also relating to secondary degeneration clearly show that the mass of the nerve fibers which we find in the *pons varolii*, which we find at the junction of the pyramids and in the *cura cerebri* are not the parts containing the voluntary motor conductors.

But there are more clear and positive facts than these. At one time I, with a number of other physiologists, found that in rare instances in which it had been possible to divide a good part of one of the anterior pyramids and sometimes of both of them—in those very rare experiments of a division of a part of these pyramids, we found that paralysis was produced by the operation. Magendie has the merit of having succeeded more fully than other physiologists, and indeed, of those of my time as well as of preceding generations, of having performed the experiments in a more complete way than others. He found that division of one

anterior pyramid does not produce paralysis, and division of the the two pyramids does not produce paralysis. Since that time better modes of experiment have been found, and Schiff and I have made the experiment and others have ascertained that the anterior pyramid on one side can be cut without marked paralysis, and that both pyramids can be cut without marked paralysis.

If you put this experimental fact in the presence of some clinical facts which are strong in their significance, disease of the anterior pyramids does not always produce paralysis, and I have known of their lesion 22 times without paralysis. In one case a woman who worked in the hospital up to the day that preceded her death had considerable degeneration of the anterior pyramids, and probably a few fibers remained normal in those parts.

In another case noted by an observer whom I name more willingly than others owing to his accuracy, there was disease of the spinal cord and paralysis of the lower limbs, but the upper limbs were free, and the two anterior pyramids were destroyed. Dr. Bichât, who is also a very able man, has had cases of that kind, and a good many such have been observed. But in other cases another kind of alteration takes place, that which comes from a partial abscess located there, and in these cases also no paralysis occurs, or at least no marked paralysis has been observed so that both experimental physiology or rather experiments on animals, and observed clinical facts establish that the anterior pyramids can be divided or destroyed by disease without any marked paralysis. What becomes, therefore, of the view that they are the only channels that serve to establish communication between the will and the muscles ?

Now, if you put this series of facts in the presence of the other series of facts, that the location of the disease in one of the *crura cerebri* or in the *pons varolii*, has produced paralysis only on the opposite side, and if you remember the conclusion I derived from these facts, and the conclusion which flows fully from these facts, you will see that it is impossible to admit that the voluntary motors decussate there. If you scan the facts closely, you will find that there is no place in the base of the brain where it can be demonstrated that the voluntary motors decussate.

And now you come from this demonstration to the conclusion that if you admit decussation, you must place it elsewhere than in the base of the brain. And I will ask where? Certainly it is not above the *crura cerebri*. For, if it is there, the same arguments would be applicable to it; and certainly not in the spinal cord, where we know there is decussation all along and crossing the fibers going from the anterior columns in front of the central canal of that organ. It is not there that we are to place decussation, and one reason is sufficient. It is that when we find disease located in one half of the spinal cord, it produces paralysis of movement only in the corresponding side, so that there is no possibility of admitting that decussation which we see in the cord as a physiological decussation of the voluntary motor conductors.

We are now, as you may observe, in the presence of a complete annihilation of the views that are admitted as regards the general form of paralysis in brain disease. We are in the presence of facts which, on the one hand, oppose the generally received view that where there is disease in the left side of the brain, paralysis is in the right side of the body, and *vice versa* for the other side of the brain. We are in the presence of that fact which certainly seems to show that there must be a decussation of conductors between the left side and the muscles on the right side of the body, and generally with the fibers from the opposite side. And still we find, by the arguments I have presented, that there cannot be such decussation. What, then, is the explanation of paralysis? We must reject necessarily the old explanation, and coming now to another series of arguments, and taking only for a moment (as it is somewhat out of my subject), the voluntary motor apparatus at the psycho-motor centers, what do we find as regards disease there? (I do not speak of experiments that I could show—there are many of them.) Let us consider what is more interesting, only the clinical facts. There is no question that disease in those pretended psycho-motor centers will produce paralysis frequently. I would not say very frequently, but certainly frequently. And there is no doubt also that out of a hundred cases of paralysis produced by disease located in that part, you will find more than eighty cases. You will find that in most cases a lesion, limited to a small part of that zone, causes paralysis. Although

it is only a small part of that zone, you may find paralysis of the two limbs on the opposite side. How could it be so, as most of the zone, which is called psycho-motor, remains perfectly healthy? How is it that the destruction of a part of the zone produces complete paralysis of the opposite side? In many of these hundred cases you will find it is paralysis of the arm. A paralysis of the leg or arm will come, in perhaps one case out of a hundred, and when it comes it will give light to the theory, because it will be placing out of tone, considered as a zone, the psycho-motor organ and the leg. Now, the discrepancies between the meanings of the effects and the place of beginning of the paralysis, and the number of parts becoming paralyzed—the discrepancies are such that it is impossible to admit these views.

But take paralysis of the arm. It has been proposed—and I must say that I am sorry that such view has been put forward, because it may mislead a great many surgeons, and perhaps may prove absolutely wrong—on the mere presence of paralysis of the arm (in case of, for instance, a blow upon the head) to apply the trephine in accordance with the ordinary rules at the place considered as the part of the brain which moves the arm. But if you know how many facts there are which show that paralysis of the arm may come from disease in any part of the brain—if you know that a blow on the head will almost always produce paralysis —if you know that, what then, as regards the application of the trephine? How can you be entitled to apply it at the place supposed to be the psycho-motor center of the arm? As regards a great many arguments against these views I will only add this: that we may see paralysis occurring in the arm or the leg, or in both, when the disease is at the surface of the brain, or in the front of the psycho-motor center, or far from it in the posterior part of the brain, or the anterior part, so that indeed those views about motor zones are in complete contradiction with what clinical observation teaches.

Another series of arguments which I have no time to mention, is that those two sets of psycho-motor organs can be destroyed without any paralysis.

I pass now to other parts of my demonstration. If you examine what takes place in cases of disease of a certain part of

the brain which I have been led to call the special corner of the brain—a corner which forms a kind of angle limited by the *cerebra*, the *pons varolii*, and the *medulla oblongata*—in that special corner, when disease exists, you find it may show itself elsewhere more decisively and more strikingly. In that peculiar part of the brain we find more centers of disease than elsewhere and paralysis occurring on the corresponding side of the body. My experience is limited as regards the dissection of dead bodies; but I have seen three such cases in which the autopsy was made, and I have been able to diagnose during life, cases of this disease which have been followed by autopsy. The case was perfectly clear. There was no difficulty in coming to the conclusion I arrived at, and therefore I can say I made the diagnosis, and the autopsy approved it. I shall have to say in the third lecture what were the results of the diagnosis in that case as well as other cases. For the present, what I wish to say is, that in that special part of the base of the brain, a lesion produces paralysis on the same side more frequently than on the opposite side. Lesion there also produces paralysis of the two lower limbs, sometimes paralysis of the two upper limbs; although (I repeat) it is located in one side only of the base of the brain. It may (and it is so in a great many cases, and perhaps more frequently than in other cases) produce no paralysis at all. So that here is the same lesion, pretty much the same in nature as in most cases of the disease, temporary degeneration of the *dura mater* and petrous bone; in most of these cases having destroyed pretty much the same parts in the base of the brain; but while it produces no paralysis in some cases, in other cases it produces paralysis of the same side, in still other cases paralysis on the opposite side, in other cases paralysis of the two lower limbs, and in others paralysis of the two upper limbs. How can you reconcile such facts with the view that the paralysis arises from the destruction of the tissues, where we find the disease after death? Certainly this is impossible. You cannot admit that in one individual the fibers are destroyed on the same side, and in another the fibers that go to the muscles on the opposite side, while in another they are the fibers extending to the lower limbs, and in another the fibers that extend to the upper limbs, and in others the fibers

that go nowhere. Indeed, it is absolutely impossible to imagine the variety of function that would be adequate to produce the variety in morbid manifestations that we see in these cases. Hence, therefore, at least for these cases, we must decline to accept, that paralysis there appears from a destruction of the fibers employed as conductors between the will and the muscles.

There is, as regards convulsions in connection with the base of the brain (and especially that corner, that angle) pretty much the same variety that I have alleged to exist for paralysis. Convulsions may appear anywhere and everywhere at the same time, so that the greatest variety of effects, both as regards convulsions or paralysis, can come from disease located in that place. It may be supposed that in some of these cases, at least, you could not, by any supposition that I can foresee, explain all the effects; but it may be admitted that fibers exist there which do not decussate, but which come directly from the brain to the muscles. Indeed this supposition has been made. Some physiologists have admitted the theory that voluntary motor fibers when they decussate, do so in the base of the brain in many parts. The part that does not decussate exists there in that special corner which I have mentioned. This would seem to be in harmony with certain facts. Thus, the fibers on the lateral column of the *medulla oblongata* go into the anterior columns of the spinal cord, which we can divide in animals and produce paralysis, and which very rarely indeed are destroyed in man with considerable paralysis in the four limbs of the body if the lesion is high up. Here are these facts, which are clear and evident, although perhaps not so plain as is believed. Here are these facts, still you find on attention to these anterior columns in the *medulla oblongata*, where they form the lateral columns, that they can be divided without any marked paralysis, and in man if these lateral columns be divided by disease or cut, there will be, after such lesion, the variety of effects I have mentioned or no effect at all. How can it be? It is owing to the fact that the anterior columns are parts of the voluntary motor apparatus, that paralysis appears when they are destroyed or divided, that the degeneration in the *medulla oblongata* differs from them so radically. You see the kind of contradiction which renders almost impossible the view

that paralysis (even when the disease is in the spinal cord) depends upon the destruction of the conductors. What, then, is the cause of paralysis? A good many facts, which I will mention at length in the last lecture, throw great light on this subject. I will mention only one now, that you may have one fact showing that paralysis can appear from other causes than the destruction of tissue. Perhaps you are aware (certainly I dare say most of you are aware) that if the lateral half of the spinal cord be cut, there is paralysis of movement on the corresponding side below the needle and anæsthesia on the opposite side. There are other features, but I pass them aside. If we prick with the finest needle certain parts of the posterior columns on one side of the dorsal lumbar enlargement, we find sometimes that the animal exhibits identically all the features that we find when the lateral half of the cord has been divided. There is mere irritation of a minute part of the fibers, and that irritation produces identically the same effects that are produced by section of the lateral half of the cord. If such effects can come from such slight causes, you can easily understand that causes more powerful can produce similar effects. Indeed, it is quite certain that a great many facts point out that paralysis, in cases of brain disease, has no relation whatever to the extent of the disease—no essential relation with the seat of the disease. It has no relation as regards its degree, extent or duration. There is no law that can be fixed establishing the relations between paralysis and the disease in the brain.

There are many other points which I might mention in this lecture, but, as time presses, I will hasten to say a few words on a point relating to the appearance of paralysis when disease exists in the *pons varolii*. There is much argument, as you well know, as to whether the right half of the brain contains the voluntary motor conductors for the left side of the body, and *vice versa* whether the left side, the voluntary motors for the right side. Well, it is not so by any means. What I have said of that special corner can be said in a measure of the *pons varolii*, and I will say at once, that disease if located there in one half of the cord, can produce paralysis wherever it exists, whether in the anterior, lateral, or posterior part. It is quite certain that if this is so, when the

disease is in the posterior part of the organ, paralysis does not appear, owing to destruction of the conductors, as no physician or anatomist has placed the conductors there. Therefore, there are cases clearly in opposition to the views admitted.

But now, if we examine, what takes place when the disease is in the front part of the *pons varolii*, we find the greatest variety. The disease limited to a part of that organ may produce complete paralysis on the opposite side; on the contrary, the disease may destroy the whole anterior part of the *pons* and yet produce very little paralysis, and in a few cases has produced hardly any paralysis. On the other hand, lesion there, just as in the spinal cord, can produce paralysis on the same side.. There are not many such cases; but three are the clearest; one by Dr. Stanley, of London, a very able observer. In that case half of the *pons varolii* was destroyed, and paralysis occurred on the opposite side. The variety as regards extent, duration and degree, therefore can exist without any corresponding variety in the disease of the *pons varolii.*

Another argument relating to convulsions, comes very strongly also from cases of diseases in that part, because the disease there can be diagnosed in most cases, whatever the seat of the paralysis. But convulsions can help the diagnosis. Convulsions may appear any where, and the greatest variety may exist as to their seat. But many cases of brain disease may exist without any convulsions at all.

As you may have seen so far, there are parts in the base of the brain which will give rise to very much the same lesion, but a great variety of effects as regards both convulsions and paralysis.

In the next lecture I will take this part up again, and in the third lecture I intend to give my conclusions relating to the therapeutics of brain disease.

DR. FULLER, of Montreal, has trephined portions of skull of an idiot two years old. The mental improvement was marked. The good doctor, if he is not too busy in his own country, has a vast field of usefulness open for him in this. Cannot he be induced to come over?

Editorial.

DOES CHICAGO NEED TWO MEDICAL SOCIETIES?

Prior to the great fire of October, 1871, there was but one medical association in Chicago—the Chicago Medical Society—and its meetings, in the centre of the city, were so attended that no one would have seriously considered the idea of establishing another with a similar organization, scope and character.

The fire suddenly destroyed the central portion of the city, and then the remaining two sections—the South and West Divisions—were separated by a vast area of débris and ashes. The business and commerce of Chicago having lost their common centre, crystallized around two new nuclei, the one on the West and the other on Twenty-second street, on the South Side. Chicago had, in fact, become divided into two cities. Under these circumstances it was impossible for the Chicago Medical Society to meet at a place which would have suited the convenience of the members of the profession in both towns. The next best plan for the society to adopt would have been to hold alternate meetings in each Division. Although practically this arrangement would have split the society into west and south clubs, unity would have been preserved in name and organization, and no difficulty would have arisen to prevent the reunion of the two in one common meeting as soon as a central location was to be had.

But when, after the October catastrophe, the Chicago Medical Society established itself permanently on the West Side, the physicians residing in the South Division were practically debarred from regularly attending the meetings. They therefore founded a society of their own—the Chicago Society of Physicians and Surgeons.

Under the circumstances this schism was unavoidable, and, justifiable too, if looked upon as a temporary expedient to meet the wants of the profession in the best way possible until the centre of the city could be rebuilt. Continued beyond that period it became a great evil and a calamity to both societies. As each of them in its transactions aims to occupy the whole field of medical science, they are not supplementary to each other as a pathological, or a chirurgical or a gynæcological society would be to a general medical association. They are directly antagonistic because as *town* societies, they prevent a free interchange of opinions among the physicians of the whole city. They do not promote professional friendship but on the contrary alienate the physicians of the several towns; for very few of the former are able and disposed to attend a weekly meeting. He does very well indeed who attends once every fortnight. Besides there is no particular reason for belonging to two societies so much alike in character. The result is that a physician in one Division will attend the meetings held in his vicinity and thus forfeit the pleasure of seeing and hearing his professional friends elsewhere. The Society of Physicians and Surgeons therefore was very seldom called upon to confer its membership upon West Side practitioners and the Chicago Medical Society very rarely saw the face of those resident in the South and North Divisions, though the names of most members of the first named society appeared in its list of members.

Meetings of medical men in Chicago will never be very largely attended, because of the extent of the district over which residences are scattered. Still one medical society could most assuredly command a fair attendance, if it should receive the patronage of the profession of the whole city. But if this patronage is divided among two societies of the same kind, both institutions will have to suffer, and sooner or later experience the inevitable effect of separation. Already one society has been suffering from chronic absenteeism among its members, and at the other, counting nearly one hundred and fifty members, the attendance has sometimes diminished to little more than a dozen individuals.

West Side physicians have already become so thoroughly accus-

tomed to meeting on their side of the river, that when the Society of Physicians and Surgeons extend an invitation to *all* members of the profession to listen to the reading of an excellent essay on the anatomy of the lymphatic system, the profession of the West Side was represented by but two or three gentlemen.

These observations demonstrate conclusively that there is no need for two similar medical societies in Chicago, and that it is time to close the hiatus which has separated and estranged the members of the profession before it widens and deepens. There is not a single valid apology for the continuance of this anomaly, since the extraordinary circumstances which created it, have ceased to exist.

Let the members of both societies come together, to clasp hands and to unite their efforts in one great aim—to establish one medical society, whose meetings shall become both interesting and attractive by the active rôle assumed by the leading physicians of the city; whose transactions shall be the pride of the profession of this Western metropolis, and whose membership shall be a high honor to every physician.

DR. BROWN-SÉQUARD, who is too well known to need an introduction to the American medical profession, is at present in this country to visit the larger cities and entertain his professional friends with his observations and researches in that most interesting, yet still most obscure field of medical science, the diseases of the brain. In the past month he paid a visit to our city, and under the auspices of the Chicago Medical Press Association, delivered three lectures on "Paralysis and convulsions as effects of diseases of the base of the brain." We thought that these lectures, embodying the views of one of the greatest authorities on the functions of the brain, would be of more than a passing interest, and deserved to be reproduced in the pages of a medical journal. We therefore secured a complete short-hand report of the lectures, and are pleased to present to our readers the first lecture in this number.

The second lecture will be published in the JOURNAL AND EXAMINER for April, and the third in the issue for May.

Correspondence.

THE HOT SPRINGS OF ARKANSAS.

To the Editor of the Medical Journal and Examiner:

It has become quite fashionable in this vicinity, for persons suffering from chronic ailments, of whatever nature, to visit the hot springs of Arkansas. Many having received benefit, the fashion is likely to be perpetuated and the profession often consulted with reference to such visits. Thinking that the results of personal experience may furnish some data for advice of this sort, I subjoin the observations made by myself in the short space of three weeks.

The hot springs of Arkansas are quite numerous—some 50 or more—all issuing from the base of Hot Springs Mountain, and confined to a comparatively small area. I should think the two most distant were less than seventy-five rods apart. The analysis of the waters of the different springs gives nearly the same results, with one exception. All the springs have, in my opinion, a common source, the difference being due to the different character of the material through which the water flows. The one spring materially differing from the others, evidently passes through a bed of magnesia, where, uniting with the carbonic acid, with which the water from all the springs is highly charged, is formed a deposit upon the mountain's side of almost pure carbonate; with this exception, the waters are nearly free from foreign matters of every kind. Numerous analyses have been made, all showing a large amount of carbonic acid, and but little else, the water averaging only about one grain of solid matter to the pint. It seems to me that somewhere in the laboratory of nature, this water has been condensed, and that the rock through which it

subsequently passed, was so hard as to yield but very little of its constituent particles. And we find that most of the rock in the vicinity is flinty in its character, indeed, much of it is pure hornblende. Through such rock we can readily imagine distilled water might pass for a long distance without losing its purity. The general appearance of the country, the position of the rock, and indeed, everything clearly indicate excessive volcanic action; and my theory is, that perhaps at some distance, this action is still going on, and that steam is continually being driven into a cavern, where condensation takes place, whence the water, still heated, is driven by various courses, till at last it reaches the surface, somewhat singularly, in so nearly the same locality. We find these various springs so close together, differing in temperature very materially, the range being from about 86 to 160° Fahrenheit. The water thus heated, and thus pure, and thus flowing from the springs to the amount of upwards of 500,000 gallons per day, is used for drinking and bathing with general results, which I will describe as nearly as possible. Individual idiosyncrasies and pathological conditions change results very considerably, and render the study of each individual case necessary, as will readily be perceived when I come to describe the specific action—if it may be so called—of the water. Most persons prefer to drink the water as hot as they well can, say at about 140°, though at any temperature it is pleasant, and does not produce the slightest nausea. This quality is, I presume, mainly attributable to the carbonic acid gas it contains, as is also the sense of exhilaration which follows the draught, and which suggests the effect produced by drinking a cup of green tea. It requires but a short time to establish a liking for this beverage, and to feel a sense of discomfort when it cannot be obtained. The hotter it is taken, the more stimulating it seems to be, and the same is true to a greater extent of the bath.

In the bath houses appliances for every conceivable form of bath are to be found, but for my present purpose it is sufficient to speak of the simple tub bath. On entering the bath one is surprised at the buoyancy of the water. It is more buoyant than ordinary salt water, and yet nearly perfectly free from organic matter. Remaining six or eight moments in the bath, and at the

same time sipping the hot water, a sensation of exaltation or stimulation is experienced, and an examination of the pulse reveals the fact that it has increased in frequency from five to ten beats per minute, provided the temperature of the bath was not above 98°. If above this degree of heat, these symptoms will be aggravated and a disagreeable sense of cerebral congestion, with its attendant symptoms, will exist. On emerging from the bath, after having been thoroughly rubbed, one is surprised at the prominence and fullness of the veins. A very casual observation will convince any one that in a very few moments there has been a material increase in the amount of the circulating fluid. The water is in such a condition that it enters with extreme readiness by endosmosis into the vessels, both from the stomach and through the skin; and, on purely mechanical principles, the volume being increased within given bounds, there must be a corresponding increase in the velocity. I saw one case in which, after a bath of eight minutes in a temperature of 104°, the pulse increased from 80 to 120 beats per minute, and I produced a similar, though not quite so great a rise, by experimenting upon myself. Relief from this condition comes from profuse perspiration or diuresis, one or both of which are sure to follow. The skin, aroused to greatly increased activity, becomes soft, smooth and pliable, and the process daily repeated all the tissues become washed out, as it were, and nature is thus aided in her efforts to remove not only the products of physiological disassimilation, but also any toxic agents which perchance may have found their way into the system. In this way also the removal of deposits and indurations is favored; but as every physician will readily perceive there is danger, if the vessels are weak, of a rupture and consequent hemorrhage, and there is also danger if any organ of the body is very much congested or diseased, of so overcrowding the vessels in it as to produce a stasis of the blood, just as a panic stricken crowd in a building blocks up the place of egress and prevents any one from escaping.

It thus will become very apparent to all that these waters are a powerful agent for evil as well as good unless judiciously employed. As an evidence of the correctness of the view advanced, I will state that a number of cases of sudden death were

reported to me by physicians and keepers of bath houses, occuring either while the patient was in the bath or shortly after being removed. The proprietor of one of the houses reported to me the case of a man who insisted upon having his bath hotter than directed and remaining in for a longer time. On coming out he fell down in a semi-unconscious condition, and very soon commenced to vomit and purge exactly as if affected with cholera. The superabundance of serum was poured out into the stomach and bowels, and his life probably saved thereby. It is a matter of daily occurrence to hear persons say they have a violent headache in consequence of having taken their bath too hot that morning. I was credibly informed by physicians that it was not at all uncommon for ladies who had ceased to menstruate for a year or two, and who supposed the climacteric period passed, to have menstruation re-established for a time after taking a few baths, and Dr. Garnet informed me of a case in which it returned after an absence of eight years. It will thus be seen that no person inclined to the hemorrhagic diathesis, should be advised to visit these springs, nor should any one having cardiac disease, or very serious organic disease of the brain, or any of the visceral organs involving tissue destruction, or any great amount of consolidation. Where inflammation or congestion is not excessive, relief is sometimes afforded, I presume upon the same principle that a poultice will sometimes favor the resolution of a local inflammation by producing relaxation and increasing the circulation through the part.

In the treatment of the various forms of syphilitic disease, the springs have acquired their greatest reputation, but to the syphilitic virus, the waters furnish nothing antidotal; they are mainly aids to treatment. I heard of cases among the poor that were getting well under the use of the waters alone; but I took especial pains to visit all I could hear of, and I found every one making any manifest improvement managed in some way to get mercury and iodide of potash. The testimony of all the physicians is to the effect that secondary and tertiary syphilis is at the springs effectually and permanently cured in time, as it cannot be elsewhere, and such I am inclined to believe is the fact. All cutaneous diseases, and what are known as blood poisons, are benefited. Under the last head, I suppose rheumatism may be

classed. In cases of nervous prostration and paralysis, due to anæmia, the use of the waters, together with a judicious general tonic course of treatment, produces very happy results in many instances. There are, however, in my judgment, other reasons to which these results may be attributed, in part, at least. It has never fallen to my lot to see a place where so much bragging is done as here. All are made to believe they will surely get well, and cases of miraculous cures in ailments similar to theirs are constantly being rehearsed to every invalid. A spirit of cheerfulness pervades the place, and sweet breathings of hope inspire every heart. The effect of the hot bath is to soothe and quiet nervous irritation, and the stimulating quality increases the appetite and aids digestion. Nearly all who take the baths eat heartily and sleep well.

The physicians of the place claim unusual success in the treatment of non-malignant uterine affections, which success they do not claim as the result of any extraordinary skill on their part, but as in the case of syphilis, to the baths as an adjuvant to treatment. One thing is certain, a large number of cases of this kind go there for treatment and most generally derive benefit. There are, however, some objections, as yet, to the place for this class of patients. Hot Springs is and probably always will be the Mecca for unfortunates afflicted with syphilis, and the idea of patronizing a bath-house, common and open to all kinds of cases, cannot be very pleasant to ladies of refinement. One among the most prominent physicians of the place has it in contemplation to erect an infirmary, with appropriate baths, for the reception of these cases, and to make a specialty of their treatment, moving with his family into the building, and making a home for those ladies who may choose to place themselves under his treatment. Something of this kind is needed, and should receive the encouragement of the profession. I would here remark it almost seems as if the waters promised some disinfectant property. In the holes on the mountain's side, where those too poor to patronize bath-houses bathe, one may any day see half a dozen lying in the pool side by side, one with his body covered with the most foul and loathsome ulcers, and next to him one with his skin as clear and clean as an infant's, and yet all alike seem happy, and

upon the most careful inquiry I could not learn that a suspicion existed that any one had ever received injury by reason of such proximity.

It is generally claimed that the waters contain electricity. Some persons informed me that they experienced a feeling akin to a mild shock on getting into the bath, and I was informed it had been proven to exist by scientific tests, but I did not feel entirely satisfied on this point. I have a vague notion that heat and electricity are in some way correlated, but speculation upon this subject leads me away from my subject. The water as it emerges from the ground seems to possess some quality which is lost when conveyed to any considerable distance. There is an appreciable difference in the effect of a bath taken at the same temperature in a house directly over the spring supplying it as for the instance "Big Iron Bath House," and one taken in a house supplied with water conveyed through a tube for some distance. A bath at a given temperature in the house named produces a more powerful impression upon the system than at any other place tried by me. This building is a poor place to cool off in after the bath. It seems to me there should be for use at this season of the year a large, airy, well ventilated room attached to that house, but not encased in iron, where the bathers may loiter for a while before venturing into the open air. Those bathing at the holes before alluded to, solace themselves with the idea that they receive greater benefit from the baths they obtain without money and without price than do those who are fortune's favorites and pay their money for an inferior article. There is a species of sacred attachment manifested for the old "Rahl Hole," so called, and if I were the government agent having the direction of the matter it should never be disturbed, but should always remain free to all, as at present, even though it might interfere with some architectural plans. Any general impression standing the test of time, is reasonably certain to have some foundation in fact. There are some peculiarities of the water which I will not attempt to explain, but will mention one or two. Taken at a temperature of 160° and placed over a fire by the side of cold water, the last will come to a boil first. Clothing left soaking in the hot water over night, becomes so offensive as to require boiling before it can be worn.

This is not the case when soaked in the same water after it has become cold.

Hot Springs is said to have between sixty and seventy physicians. Among them are many gentlemen who would take high rank in any city of the Union, and in whose hands the profession may feel their patrons are safe in every respect. It would not be proper for me to mention names, but it is safe to advise the avoidance of those who employ extraordinary means to secure patronage. Unless those who consult you, know to whom they wish to go, or, you know some one to whom to send them, I would say advise them not to consult any one until forty-eight hours after their arrival upon the ground, and not until they have had an opportunity to obtain disinterested information. It is proverbial that invalids are easily duped in making the selection of their medical adviser. The glare of great pretensions often blinds them. I presume I do no one injustice when I say that at every place of invalid resort there are to be found so-called doctors whose highest purpose seems to be to make all the money they can out of the victims who fall into their hands, and who make a pretense of knowledge they do not possess, hence these words of caution. With these thoughts I am

Respectfully yours, J. L. WHITE.

BIDDING FOR PAUPER PRACTICE.

To the Editor of the Chicago Medical Journal and Examiner:

I desire to call the attention of the medical profession, through your JOURNAL, to a practice among physicians in some localities that appears to me to be of doubtful propriety, if not an open violation of the code of ethics. I allude to the custom of physicians entering into competetive bidding for pauper and poor practice at the instance of boards of supervisors. These boards or their committees usually give public notice that bids will be received from physicians for the medical and surgical attendance of the paupers or the poor for a year. And after some such notice as this, the physicians proceed to bid against each other, or each

aims to bid lower than his neighbor, and, as a rule, the one that proposes to do the work for the least money is considered the best bidder and gets the contract.

This may be right and in accordance with the code of ethics, but if it is, I do not understand the code.

Whether the custom of bidding for such practice is a common thing all over the country, or is limited to certain portions of this State, is more than I can tell, but one thing I do know, and that is that it is the custom in some localities in the State of Illinois. And I do not now refer to homeopathic or eclectic practitioners, but to the so-called "regular" members of county and district medical societies, and even members of the Illinois State Medical Society.

Can regular physicians engage in competetive bidding for poor practice without violating the letter and spirit of the code? If the advocates of the practice think the code gives such liberty, I would like them to show me where they find it. I understand the code of ethics of the American Medical Association to discountenance all such practices. I understand also that the American Medical Association has declared that all physicians that bid and contract for practice at less rates than those established by a majority of the regular graduates of the same locality, are to be classed as irregular practitioners (Transactions, vol. xx., p. 41). I am aware that the code of ethics is not a law in a legal sense, but it constitutes a code of rules to guide physicians and to promote harmony among them. But in order to be of any value, the code must be observed.

I do not wish to open this question in order to excite a personal controversy, but to have it discussed and settled. I believe there are some who have been bidding for such practice that were not at the time aware that they were violating the code of ethics or any other rules that they were bound to respect; while there are others who claim that they have the right to bid and that the code gives them that right. It is claimed also by some that they bid in order to keep the practice out of the hands of irregulars, but it appears to me that those who bid on that ground place themselves on a level with irregulars if not a little below them, and have to do so in order to get the contract; for, as before remarked, it is

the men that will do the work for the least money that are rewarded.

I think that this method is entirely wrong and should be corrected, but if I have taken a wrong view of the question, I stand ready to be corrected and will yield the points whenever convincing arguments are presented by those who differ with me.

Respectfully yours, JOHN WRIGHT, M. D.

Clinton, Ill., Feb. 6th, 1878.

REMARKS :—1. Is it proper to bid for pauper practice? That is a matter of taste.

2. Is it in violation of the code ?

This question turns either upon article VII., (Pecuniary acknowledgements) or upon the relation of the physician to the public, and vice versa.

" The physicians of every district shall establish a fee bill, and make it a point of honor to adhere to it." Where is this done? Where are such charges strictly adhered to? Is it not a fact that one physician charges twice and thrice the fee set down as a maximum, while others confine themselves to the minimum rate ? The framers of the code themselves, must acknowledge that their stipulation is very good in theory, but a failure in practice.

It was a mistake to have touched the money question in the code, because theoretical rules cannot regulate a matter of such diversity.

The relation between the public and physicians is another point that cannot be decided by written rule, formulated by but one of the two parties ; for this is a mutual affair and will regulate itself by mutual understanding. The code requires a physician to stand upon the elevated platform of professional men, full of dignity and wisdom, but little concerned about such a sordid matter as the money which fills the soul of trades people.

This standard is applicable where wealthy persons follow the vocation of physician ; and in countries where this is the rule, such a standard is taken by the profession without the dictation of a code of ethics. But in this country, where medical education can be obtained at a comparatively low rate, men without means crowd the benches of the medical colleges and must earn their

bread and butter by their practice. They must follow the rules of business men, and no code of ethics can or will hinder them from so doing, because such hindrance would be fatal to their success.

And the public? Does it regard the physician in any different light than that of a business man? Does it pay for services an honorarium i. e., a *voluntary* payment tendered in acknowledgement of services; or does it not rather, either ask the doctor for his bill or wait till such bill is presented, i. e. until it is asked for money?

As long as the public pays for medical services each practitioner must have his price. Now it is absurd to stipulate that the price for medical services shall be uniform, the same whether the services are rendered by a one year's graduate or by an experienced physician; the same for one whose store of knowledge is represented by "two courses of lectures of twenty weeks each," and for another who has expended time and money in visiting all the large centres of medical science at home and abroad. As practitioners we are business men, and each must know what his services are worth. A beginner, therefore, will naturally bid for pauper practice at a lower rate than a ten years' practitioner if the latter cares at all for such practice.

It was a mistake for the national association to formulate rules regulating the business relation between physicians and the public.

In fact were all physicians refined gentlemen, as they should be, no written code would ever he required; because the ethical rules for physicians are not and cannot be different from the unwritten laws of propriety and good manners among gentlemen in good society.

So much for one side of the question—that upon which the medical man places himself when proposals are invited from the representatives of the profession.

But there is another side upon which we hasten to place ourselves. It is that which leads us to inquire by what authority or precedent, contracts for medical service are let in the same manner as that which provides for the supplies of provisions, fuel or clothing. If such authority or precedent exist, we should consider it the duty of

every medical man resident in such district, to exert his influence as an individual, as a member of a medical organization, and as a tax-paying citizen, with a view to remunerating by a fixed and reasonable sum the individual designated to perform the duties in question. Then let the position be obtainable by competitive examination and the best results will be reached. Not only will the authorities secure the best talent for the sum allowed, but even in an economical view, good can be accomplished, for the extent of the competition annually would be a safe and sure index of the extent to which the salary of such an office could be fairly and safely diminished without doing injustice to the actual necessities of the paupers.—ED.

MR. LEDLEY TAYLOR has devised an arrangement for making visible some of the complex motions of sound waves. A soap bubble solution is made with soap and glycerine, as this makes a more lasting film than water. A hole is cut in a piece of cardboard, and a film of the solution, not too thick to produce bands of color, is made across it. The card is placed on the end of a resonating box which supports a tuning fork. The fork is then thrown into vibrations with a violin bow, and bands of color immediately throw themselves into a pattern with vortex rings of motion and squares and bands of color.

THE *Popular Science Monthly* is responsible for the statement that Japanese children thrive on unripe fruit. The absence of children's disorders in the island is attributed to the small amount of cold water used, to the fact that no child is fed artificially, and to the proper attention given to sewerage matters.

IN the Massachusetts Charitable Eye and Ear Infirmary, 6575 eye patients, and 2508 ear patients, were treated during 1877. Graefe's operation for cataract was performed on 56 eyes; other cataract operations, 27; iridectomy, 26; enucleation of eye, 36; other operations, 161.

Reviews and Book Notices.

THE ACTION OF MEDICINES. By Isaac Ott, A. M., M. D., formerly Demonstrator of Experimental Physiology, University of Pennsylvania, with twenty-two illustrations, pp, 168. Philadelphia: Lindsay & Blakiston, 1878.

In this small volume the first hundred pages treat of the methods of studying the action of medicines, while the last sixty pages are devoted to the physiological history of the separate drugs. In a very systematic manner the author details in the first chapter the methods of selecting and handling animals and preparing them for the experiments. A lucid description of the instruments and apparatus necessary is also given. This is done in precise language, though not always elegant English, carefully avoiding diffuseness. But on the other hand some paragraphs suffer by too fragmentary a treatment; for instance, the page on physiological anatomy is entirely too sketchy to be a guide to the student, and unfortunately this reproach applies to many a page in the book. A second chapter on the action on the nervous system is excellent as far as it goes, but it might be more complete. By far the most satisfactory part of the book is the following chapter on the circulating apparatus. The methods of studying the action of poisons on the different cardiac and vasomoter nerves, and the observation on the excised frog's heart are detailed in a masterly manner.

Notwithstanding the omissions and defects, the first part of the book cannot be too highly recommended to the American public. It is the first attempt of its kind in this country. The author insists, and very justly, that the study of therepeutics ought to be more than crude empiricism, and the methods he describes are really the roads which, if followed, will eventually lead to a science of therapeutics.

As regards the second part of the book, the less we say of it the better. The author shows by his quotations his extensive knowledge of the literature of the subject, and perhaps the references he gives are the most valuable part of the chapter. The physiological history of the separate poisons is unsatisfactorily short, while the explanations of the curative effect are not always happy instances of theoretical deductions. Since such comprehensive works as those of H. C. Wood and others can be had for reference on the effects of individual drugs, we cannot doubt but that the book would have gained by the omission of the last chapter.

H. G.

OBSTETRICS REDUCED TO QUESTIONS AND ANSWERS. By Mrs. L. H. Corr, M. D. D. B. Cooke & Co., Chicago.

This book is a treatise on the obstetrical art in a novel form, and professes to furnish all needful information to the student in small and practical compass.

For the most part this promise is ably fulfilled, a plain statement of modern views being afforded as an answer to every question without discussion of mooted points. While the method of treatment would be unsatisfactory to the advanced thinkers, it is well adapted to the inculcation of first principles. The medical student about presenting himself for final examination does not care to be encumbered with *impedimenta*, nor when engaged in his first obstetric offices, can he find comfort in a variety of opinions.

The subject of embryology is especially well managed in this respect, and the text is amply illustrated here, as in other parts, by appropriate diagrams.

In the management of natural labor the maxim "meddlesome midwifery is bad" seems to have influenced the author to such an extent as to lead to the conviction that she leans toward the conservatism of the lecture room, rather than to the procedure of experience. No fault can be found, however, in the more precise formulæ for the treatment of difficult and complicated labor. This subject is as well presented as possible in such a work.

The management of the so-called "puerperal condition" admits of more discussion than is here allowed, and the author

seems to have taken for granted methods, the safety of which, to say the least, is not conceded by many reputable teachers.

Excepting the minor inaccuracies, which a second edition will undoubtedly remedy, the book presents a creditable appearance, and does honor to its compiler and publisher. It deserves a place in every student's library. H. W. J.

NURSE AND PATIENT AND CAMP CURE. By S. Wier Mitchell, M. D. Lippincott & Co., Philadelphia, 1877.

An excellent little work full of suggestion and sound advice to both physician and patient, and also to the family and family nurse. The object in putting forth the paper on "Nurse and Patient" is to supply some omissions observed in Miss Nightingale's book on nursing, pointing toward the evils of amateurs, and the pernicious effects resulting both to patient and nurse between whom exist strong ties of love or near ties of kindred. As a rule the best nursing is paid nursing, and the worst very often that which comes from the family. Too often however financial circumstances preclude the idea of hired nursing, and this work must fall upon some member of the family. In this case the doctor extends some wholesome advice relative to the safe carrying of the newly imposed burden so as to give to the patient all needful attention, and at the same time protect the nurse from making of herself, through "that strange feminine mood of sacrifice" a needless martyr, thereby, ultimately, adding another invalid to the family.

The main purpose of the paper devoted to "Camp Cure" is to insist upon the great value to people in and out of health—particularly brain working people living in large cities, and victims of civilization—of returning occasionally to some form of barbarism. "Civilization has hurt, barbarism shall heal." His vivid discription of camp life and the beautiful presentations in word picture of the scenery of the upper Superior country and the lakes and woods of Maine given in his own fascinating and inimitable style almost bring to the reader the "breath of the wood" and the sound of the waterfall and the splash of the oar: and one begins to feel a growing respect and salivary longing for the prejudicial onion which can be eaten in camp with impunity by the

most dyspeptic. The weary "professional," the merchants, the manufacturers, dealers in money, etc., who through successive years, have been held to their severe and steady labors, and who experience, as they must as a result, the prostation and fag and relaxation which the springs peculiar to our climate bring, would do well to try the camp cure in place of the murky watering places and fashionable resorts which entice only to deceive.

One with aching and weary brain, with ears filled with the cities' din, and a growing perception within and around of approaching summer's heat, cannot read this little work without being seized with a desire to shoulder rod or gun and a knapsack, to "change," turn his back on civilization and take a plunge into such delicious barbarisms as are here briefly sketched.

S. F. B.

ON THE USES OF WINES IN HEALTH AND DISEASE. By Francis E. Anstie, M. D., F. R. C. P. Late physician to the Westminster Hospital, and editor of the *Practitioner*. Reprinted from the *Practitioner*. London: MacMillan & Co., 1877. pp. 74. Chicago: Jansen, McClurg & Co.

This little book should be purchased by every physician, and in fact by everybody who wishes to obtain some sound, unbiased information on the use of wines. It presents the various sides of the question in the calm spirit of scientific exposition and in the elegant language of an experienced and refined author.

If the knowledge obtained in this little treatise was more widely diffused among all classes of the American people, there would be less occasion and less need for temperance movements which, it seems, must break out at regular intervals with the same necessity as the periodic upheavals of a volcano follow the accumulation of immense volumes of gas.

STATE REGULATION OF VICE. REGULATION EFFORTS IN AMERICA. THE GENEVA CONGRESS. By Aaron M. Powell. New York: Wood & Holbrook, publishers, 1878; pp. 127.

The question as to the best way of dealing with the so-called social vice, is strongly occupying the minds of both lawyers and physicians; the former chiefly because of the danger involved for

the morals of society; the latter on account of the propagation of the venereal diseases. An international congress was held in Geneva, Switzerland, in September, 1877, to promote the abolition of State regulation of prostitution. The little book gives an account of the proceedings and conclusions of this congress, and also describes the various attempts which were made in American cities to introduce this European system of regulating the trade of prostitutes by State laws. The author is a pronounced enemy of State regulation, and takes a great delight in showing up the utter inefficiency of this system by statistical abstracts from the police records of Paris, where the system has been in force these many years. These records prove that during this time prostitution and syphilis have not only not abated but increased in a very appreciable degree. This result cannot surprise any one who knows that all attempts so far made toward arresting the propagation of syphilis were too one sided to be efficient. A system which limits the medical examination to the prostitute women and leaves their male visitors unexamined, has as much protective power as the plan to bolt the stable door after the horse is stolen.

BOOKS AND PAMPHLETS RECEIVED.

Spinal Disease and Spinal Curvature; their Treatment by Suspension and Use of the Plaster of Paris Bandage. By Lewis A. Sayre, M. D., etc. London: Smith, Elder & Co. Philadelphia: J. B. Lippincott & Co. 1878. 12mo.; cloth, pp. 121.

State Regulation of Vice.—Regulation Efforts in America.—The Geneva Congress. By Aaron M. Powell. New York: Wood & Holbrook, publishers. 1878. 16 mo.; cloth, pp. 127.

On the Use of Wines in Health and Disease. By Francis E. Austie, M. D., F. R. C. P.; Late Physician to Westminster Hospital and Editor of the *Practitioner*. Reprint from the *Practitioner*. London: MacMillan & Co. 12 mo.; cloth, pp. 74. Price 75 cents.

Practical Gynæcology. A Handbook of the Diseases of Women. By Heywood Smith, M. A., M. D. Oxon. Member of Royal College of Physicians. Physician to the Hospital for Women and to the British Lying-in Hospital. With illustrations. Philadelphia: Lindsay & Blakiston. 1878. 12 mo.; cloth. Price $1.50.

Handbook of the Practice of Medicine. By M. Charteris, M. D., Prof. of Practical Medicine, Anderson's College, Glasgow, and Physician and Lecturer on Clinical Medicine, Glasgow Royal Infirmary. With illustrations. Philadelphia: Lindsay & Blakiston. 1878. 12 mo.; pp. 336. Price $2.

Landmarks, Medical and Surgical. By Luther Holden, F. R. C. S., etc. From the second English edition. Philadelphia: Henry C. Lea. 1878. 12 mo.; cloth, pp. 128. Price $0.88.

Transactions of the Thirty-second Annual Meeting of the Ohio State Medical Society, held in Put-in-Bay, June 12th, 13th and 14th, 1877. Cincinnati: Mallory & Webb, printers. 1877. 8 vo; cloth, pp. 200.

Nurse, Patient and Camp Cure. By S. Weir Mitchell, M. D. Reprint from Lippincott & Co. 1877. 12 mo.; cloth.

Is the Human Eye Changing its Form Under the Influence of Modern Education? By Edward G. Loring, M. D. New York: 1878.

The Treatment of Fracture of the Femur. By Edward Borck, M. D., etc. Reprint from *St. Louis Medical and Surgical Journal.* 1878.

Truth Admitted. The Columbia Hospital for Women and Lying-in-Asylum. By A Citizen of Washington, D. C. From January number *Richmond and Louisville Medical Journal.*

Seventh Annual Report of the Board of Trustees of the New York Ear Dispensary, incorporated April 8th, 1871. New York: G. P. Putnam's Sons. 1878.

A Report of 15 Cases of Tracheotomy in Diphtheritic Croup, 6 of them Successful. By R. G. Bogue, M. D. Reprint from CHICAGO MEDICAL JOURNAL AND EXAMINER.

Twenty-fifth Annual Report of the Pennsylvania Training School for Feeble Minded Children. Media, Delaware county. 1877.

Report of the Pennsylvania Hospital for the Insane, for the year 1877. By Thomas S. Kirkbride, M. D., Physician-in-Chief and Superintendent. Published by order of Board of Managers. Philadelphia. 1878.

Surgical Treatment of Intra-Uterine Submucous Fibroids. By E. T. Easley, A. M., M. D. From February number *Richmond and Louisville Medical Journal.* 1878

Des Tremblements Consecutifs aux Maladies Aigues. Par Le Dr. E. Clement, Lu à la Société des Sciences Médicales de Lyon. 1877.

Clinical Gynæcology. By W. H. Nathen, M. D., etc. January and February numbers *Richmond and Louisville Medical Journal.*

A Succinct History of the Plan of Treatment of Potts' Disease by Suspension and the Use of Plaster of Paris Bandage. By Lewis A. Sayre, M. D., Prof. Orthopedic Surgery, etc. Reprint from *Richmond and Louisville Medical Journal,* January, 1878.

Circular No. 10. Approved Plans and Specifications for Post Hospitals. Surgeon General's office, Washington, D. C. October 20, 1877.

The Mechanism and Treatment of Pulmonary Complications of Acute Cardiac Disease. By Beverly Johnson, M. D., Physician to Charity Hospital Reprint from the *Medical Record*.

On Certain Points Relating to the Nature and Treatment of Lupus. By Henry G. Piffard, A. M., M. D., etc. Extracted from Transactions of the Medical Society, State of New York.

Fifty-Second Annual Report of the Massachusetts Charitable Eye and Ear Infirmary, for the year 1871.

Proceedings of the Association of Medical Officers of American Institutions for Idiotic and Feeble-Minded Persons. Sessions, Media, June 6 and 8, 1876; Columbus, June 12 and 15, 1877.

DR. VULPIAR writes to the Dean of the London School of Medicine for Women that 33 women have attended the Faculty of Medicine, Paris, since 1865. Of these 6 were English, 12 Russian and 5 French. Of that number 9 have obtained the diploma of doctor.

HARTFORD, Conn., has established a medical journal, and library association. About a thousand volumes have been gathered, mainly books of reference and bound files of journals.

DR. BEVERIDGE, a British naval officer, states that foreign bodies may be removed from the throat by simply blowing forcibly into the ear. This excites coughing by reflex action.

DR. GOWERS has had constructed a modification of Hayem's instrument for counting blood corpuscles, which admits of greater accuracy and can be used with any microscope.

M. RAOUL PISLET has succeeded in obtaining the liquefaction of oxygen gas, under the influence of intense cold and a pressure of 300 atmospheres.

Summary.

Surgery.

Gurjun Balsam in Gonorrhœa.—*Journal de Médecine, December*, 1877.—M. Vidal is the first in France who has studied the applications of this new remedy, whose remarkable properties will certainly bring it into use speedily. It is obtained from several resinous trees in the Indian Archipelago, is very abundant, and the price is moderate.

Gurjun balsam has been successfully employed for leprosy by several English physicians in India, and Vidal has also had good results from its use in the Hôpital Saint Louis. But it is especially in gonorrhœa that it renders the greatest service. M. Deval, a student of Vidal, gives ten cases as proof of its value, and his testimony is corroborated by Maurice and others. The duration of treatment varied from ten to twenty days, the duration being shorter in proportion as the patient had passed the inflammatory stage. Vidal's formula is:

Gurjun balsam (wood oil),
Acacia, aa 4 grammes.
Infusion of anise seed, 40 "

To be taken before meals. It was not necessary to increase the dose, which is perfectly well tolerated, the only effect being to cause one or two stools, two hours after the meal. When the dose was increased, no more than eight grammes were given. Sometimes at first a little nausea was produced, but this speedily disappeared. Vidal gives a little wine after the potion, which makes it better tolerated. No change in diet is necessary. Besides the potion, a liniment of equal parts of the balsam and limewater, applied by means of tampons, was used in women

with vaginitis: the tampons were left in the vagina twenty-four hours. A cure was always rapid in women. Its advantages over copaiba are its more rapid and certain action; it does not produce erythema, and it does not give to the breath the tell-tale odor of copaiba. Its local action in vaginitis and balanitis is also excellent.

LISTER'S ANTISEPTIC DRESSING. SURGERY. PRACTICAL RESULTS. Prof. Létiévant. (*Lyon Médicale*, Dec. 16, 1877.)

The author introduced this method into his service in 1869, but being dissatisfied with its results abandoned it. He reintroduced it with new modifications, two years ago, and has had the most excellent results. He has sought to follow as exactly as possible Lister's great fundamental principle not to allow the external air to come in contact with the wound, but to keep it constantly surrounded with an atmosphere of carbolic acid vapors. He has used the various atomizers for this purpose, at the moment of operating and dressing. He does not use the substances for dressing that Lister does, but employs fine, waxed taffeta as a protecting envelope, then cotton passed through potash or soda lye, dried and finally charged at the moment of dressing with a two and one-half per cent solution of carbolic acid. These are kept in place by a bandage, also saturated with the same solution. A layer of dry cotton envelopes the whole.

Three great facts have been proved by his two years experience: 1st, purulent infection has not reappeared in his service; 2nd, grave complicated wounds have healed with much greater facility; 3rd, immediate union attempted after operations has nearly always been followed by success. Besides, there has been greater cleanliness of the wounds, less suppuration, and disappearance of infectious odors of the wounds, wards, etc.

Before the introduction of this method purulent infection was frequent at the Hôtel-Dieu, sometimes epidemic. Since its introduction two years ago, not a single case has occurred in the service of M. Létiévant. There have been more than 1,500 operations during these two years, the range of cases has been the same as previously and nothing has changed except the plan of

dressing. The author gives a list of 20 serious compound fractures in which there were eighteen cures and two deaths.

Such satisfying results were not known before. Amputation was the rule in compound fractures of the leg, especially if the joint was opened. Now it is the exception. The antiseptic dressing not only allows the conservation of the limb in grave compound fractures, but it authorizes a trial of new operations heretofore regarded impracticable. As an example the author mentions a case of chronic suppurative osteo-arthritis of the wrist, in which by means of two lateral incisions he extirpated all the carpal bones, resected the radial and cubital styloid apophyses, and the superior extremity of the second metacarpal bone. Moderate suppuration followed and there was no complication. Several other grave cases are mentioned, all showing the benefits of the antiseptic treatment.

The good effect of the new dressing has not only been shown in large wounds, accidental or surgical, but its value has appeared still more striking in efforts toward immediate union in serious wounds. Formerly repeated efforts were rarely followed by success. Now, nearly all are crowned with success. Among them may be mentioned operations for cancer of breast, neck, epitheliomata of lip, vesico-vaginal fistula with included neck of uterus in bladder, amputations of thumb, great toe, finger, arm, leg, thigh, strangulated hernias, tumors, neurotomies, etc. The author sums up the conditions necessary to obtain immediate union after operations, they are: 1st, Operate under a cloud of carbolic vapors; 2d, secure exsanguification of the member if possible, or at least a perfect digital compression; 3d, operate rapidly, that the air may be in contact with the wound as short a time as possible; 4th, twist the arteries, or tie with cat-gut, which may absorb; 5th, bring the flaps together closely, so that no oozing may take place from their surfaces during the suturing; 6th, use the interrupted metallic suture; 7th, dress according to his modification of Lister's method; 8th, sustain the dressing by a thick layer of cotton, destined to keep the stump warm and under a gentle pressure. The author would leave drainage tubes at the angle of wounds only a few days after the operation.

The author accords the greatest importance to Lister's method

as practiced by him. Without, he has scarcely ever seen immediate union; since its use it has been so common that he does not hesitate to regard it as the rule after operations.

To sum up: Immediate union in cases where one would not have dared to hope for it; suppression of purulent infection; conservation of parts in grave cases where amputation was formerly always performed.

TRACHEOTOMY IN DIPHTHERIA.—By W. H. Quill. (*Medical Press and Circular*, Jan., 1878.) Dr. Q. read before the Surgical Society of Ireland a paper on this subject. The patient was a healthy boy five and a half years old. The fourth day tracheotomy was decided on, but before the operation could be accomplished a frightful paroxism of dyspnœa came on and the child was apparently dead. The trachea was immediately opened, and a quantity of bloody mucus and unmistakable pieces of diphtheritic false membrane gushed out. The change was marvelous, the natural color returned, and, with a long-drawn inspiration, the child opened its eyes.

Obré's double tracheotomy tube was inserted, and held securely in place by tapes passed around the neck. Through this the patient breathed freely, and being placed in bed, fell into a calm sleep.

No difficulty was experienced in the operation. Care was taken not to wound any of the veins in the line of incision, so the hemorrhage was slight.

The case progressed favorably until the second day after the operation, when dyspnœa suddenly supervened. Dr. Johnson, who happened to be present, succeeded, by means of a long feather, in freeing the obstructed tube. A violent expiration followed, during which a perfect cast in false membrane of the lower portion of the trachea and upper portion of the right bronchus was expelled, giving immediate relief. This cast measured four inches in length. On the 9th day difficulty of swallowing gradually came on, and for several days the child was nourished entirely by nutrient enemata.

This case, Dr. Q. thinks, will help to dispel the idea "that tracheotomy must be looked upon as simply palliative when false

membranes have extended into the trachea." For the formation of false membrane seems *to be arrested by the operation*, and the introduction of a large tube close to the seat of the disease enables the false membrane to be discharged with greater facility than if they had to traverse the entire length of the trachea and larynx. Moreover, the artificial opening gives physiological rest to the larynx—a point of no mean value when one remembers its structure, and the ill effects that must result from its abnormal constant activity, and the frequent forcible contact of pellets of diphtheritic deposit.

He advocates the operation in all cases where well directed medical treatment is evidently failing, evidenced principally by more or less lividity of the face, by strong and deep depressions of the epigastrium at each inspiration, and by working of the nostrils.

He also considers it incumbent on the surgeon to perform the operation, even though the chance of ultimate recovery be infinitesimal. He here alludes to those so-called cases of bronchitic diphtheria, for more than one case of recovery has been recorded even after the false membrane molded to the tubes has been ejected, and if the only result of the operation was euthanasia, it would still be his duty to lessen the agonizing death throes.

While making full allowance for skill and coolness during the operation, much of the ultimate success, it must be acknowledged, depends on the after management of the case, for it is an interesting fact that a large proportion of deaths following tracheotomy are due, not to diphtheria, but to bronchitis or pneumonia, which follows the operation, as these affections are in great part attributable to the admission of air to the lungs, which has not received its normal degree of warmth in its circuit through the nostrils, mouth and larynx. He holds that the necessity for the air receiving the essential degree of warmth is of equal importance with keeping the tube clear.

THERAPEUTICS.

SOME POINTS IN THE ART OF PRESCRIBING FOR CHILDREN.—Robert Farquharson, M.D., F. R. C. P. (*British Med. Journ.*, Sept. 29, 1877.)

I venture to put before you a few practical observations on some points in the art of prescribing for children, because the subject is one which has hardly yet been treated on a sufficiently comprehensive basis. Much valuable but scattered information may be gleaned from the pages of contemporary literature, and much of what I am about to say has been said before; but it seems to me that some little service may be rendered by weaving these threads of knowledge into something of a more connected whole, and obtaining the opinion of some of those experienced physicians who have devoted themselves to the diseases of the very young.

Time, however, will not permit me to do more than touch, and that briefly, upon one point in connection with a subject which is really a large one, and to lay before you some facts and ideas on dosage; and here, again, I must once more subdivide, and take only a small section of a great therapeutical question, whose importance has only very recently begun to acquire that general appreciation which it eminently deserves. I might well be tempted to invite you to join with me in some reflections as to the comparative efficacy of the occasional large or the oft-repeated minute dose—a question which must before long become one of the most pressing in the materia medica; or it might be interesting to inquire as to the desirability or otherwise of inducing the physiological effects of drugs for the relief of pathological conditions; but at this time I mean to restrict myself simply to this proposition—the difference between children and adults in respect of the quantities of various drugs which may be taken, not only with actual impunity, but with absolute benefit.

Now, systematic works have too often not only ignored the teachings of Ringer, Fuller, and other modern investigators, but have done much to hamper and confuse our knowledge in this direction by laying down the law that children necessarily require

much smaller doses of most of our active drugs than adults; and we, therefore, see in books on materia medica, as well as on children's diseases, elaborate tables setting forth the quantities to be prescribed with safety at different periods of early life. Some years ago, and possibly even now, a student would run a good chance of being afforded the opportunity of continuing his studies, were he to tell his examiners that a child can take a dose of belladonna with impunity which would probably induce physiological symptoms in the adult; and, as a natural consequence of this mode of teaching, great timidity in practice has resulted; and that this may be a positive evil requires but little reflection to show. If a dose of a particular remedy be too small to effect the purpose for which it is ordered, it is much more likely to do harm than good. Thus an insufficient purgative merely irritates the patient's bowels without giving relief; too small an opiate excites the nervous system and banishes that sleep which it was intended to attract, and numerous other instances will readily occur in illustration of a statement which hardly requires such confirmation.

Granted, then, the importance of administering our remedy in doses sufficient to produce their full remedial effect, I shall lay down, as my first and only proposition, that childen require doses of many medicines quite as large as those which are commonly ordered for persons of mature age. Now, when I speak of children, I shall not refer to mere infants, whose tender organization and sensitive organs and functions require special consideration from a therapeutical point of view. Thus the yielding nature of their skulls, admitting as it must, of wide differences in the proportion of cerebral blood, no less than the natural tendency to sleep at that early age, plainly indicate caution in the use of narcotics. Purgatives and various other remedies must then be used with caution, or we may initiate an irritible condition of stomach and bowels which all our skill may not readily remove. In dealing with general principles, therefore, let it be understood that I refer to children over one year in age, and, perhaps, before beginning the consideration of special instances in favor of my views, I may briefly touch upon the explanations which most naturally suggest themselves of the particular, which forms the

excuse for my remarks. In prescribing for adults, we are frequently annoyed by the very various results obtained in different persons from a precisely identical quantity of a peculiar drug. Thus, one patient will develop a copious crop of acne from a few grains of bromide of potassium, whilst another can take ounces without such effect. Another will be salivated by a small quantity of mercury, or be unable to swallow quinine without uncomfortable nervous symptoms or a specially irritable rash. Children, however, do not present, in anything like the same degree, these special peculiarities of idiosyncrasy ; the effects of medicines are pretty constant in their case and we may generally anticipate the satisfaction of finding that our remedy has acted as we wished, and without any of that excess or eccentricity of action which too often brings undeserved discredit on the medical man. The reason which tells us why young children bear heavy doses of potent medicines must also cover this difference from their elders, and we might at once shut up further inquiry by concealing ourselves behind the dense cloak of ignorance implied in the assumed fact of an ultimate difference of constitution. But, true as this may be as an abstract proposition, we must look a little deeper, and ask, in the first place, whether some peculiarity of digestion may not come to our aid, and whether infants may not emulate some of the lower animals in the power which they possess of neutralizing or destroying poisonous principles, as rabbits harmlessly browse on belladonna, and pigeons baffle the deadly action of strychnia, etc. But of such powers in the human being, at any period of life, we have no shadow of proof, presumptive or otherwise ; and it is probable that remedies reach the blood of children in the regular way, and through the same chain of physiological processes as in the case of adults. So we must again go forth in search of our explanation ; and I think we may find some approach to it, at all events, in the view that, in consequence of the rapid growth taking place in the body during early life, the blood and tissues are in a condition of specially active destruction and renovation. Drugs such as the metals, which probably combined with the albumen of the circulating fluid, are here rapidly cast out of the system. Other remedies, which act more particularly on the nervous system, are cast

out with effets matters before they have had full time to produce their physiological effects, or, at all events, before these effects have attained to anything like completeness. Thus we do not often find developed in children that accumulation which occasionally, if rarely, is observed in patients of older gowth, because the drug is removed before it can produce that continuous and ever intensifying influence on the nervous system which eventually finds expression in what we may call a discharge.

So much, therefore, for my explanation, such as it is, of the facts which I shall now proceed briefly to lay before you.

Now, in the first place, I am bound, of course, to confirm the usual opinion of the dangers of opium in very early childhood; and it is not long since I saw an infant of eight months nearly narcotized to death by six two-minim doses spread over two days. But those within the period of life which I have selected for consideration can bear moderate quantities, and chloral seems always well borne. For instance, I have lately had under treatment a little rickety girl suffering from recurring attacks of laryngismus stridulus, to whom three and a half grains were given with benefit thrice daily. The same patient took ten, and finally fifteen grains of bromide of potassium, before any beneficial effect was attained; and I have always observed that this drug is well taken by children. Twenty to thirty grains have been no uncommon dose to reach in patients of from eight to ten suffering from epileptic seizures, and in them I have never observed any symptoms of bromism. The opposite seems to hold good of potassium iodide, so far as my limited experience goes; for I have three times seen papular and petechial eruptions produced by one-grain doses of this drug, and I should specially like to ask whether this corresponds with the observation of others.

Arsenic is usually well taken. I should have no hesitation in ordering five minims of Fowler's solution for a child of six years old. Ten minims have been occasionally ordered; and I had recently under care a little girl, aged ten, whose somewhat obstinate psoriasis only begun to yield when the dose was pushed up to sixteen minims. When physiological symptoms present themselves, as they sometimes do, it is important to know that they do not assume the usually described type, and that vomiting is

the most usual symptom. I have seen this follow a single one-minim dose, and more rarely we meet with a red and irritable tongue, dry lips, injected eyes and abdominal pain; girls being in my experience, contrary to the statement of Ringer, more susceptible to the overaction of the drug than boys.

Prussic acid may be pretty freely prescribed, and I have given nearly two minims to a child of two years, with some slight benefit, for pertussis; and at the age of seven I have given nearly three minims for the successful arrest of sickness.

We know that emetics must be given in very full doses. The intestinal canal of young children seems strangely insusceptible to the action of purgatives, and large quantities of Gregory's and compound jalap powders must be given before satisfactory action is attained.

I have by no means exhausted the instances to be gleaned from my own experience or that of others in support of my main proposition; but time presses, and I will conclude with a reference to belladonna, whose comparative harmlessness to young children has been most amply confirmed since Fuller first pointed out the fact some years ago. I have very commonly prescribed from 20 to 30 minims of the tincture for children of from 15 months to 5 years, and have invariably found that the younger the child the less likely was the dose to be followed by physiological symptoms. I have on several occasions pushed the quantity up to one and a half and even two drachms of the tincture three times a day, in children of from 10 to 12, with only a very tardy development of uncomfortable results; but, in my experience, a few 10-minim doses are usually sufficient to cause uncomfortable dryness of the throat in adults. In children, however, we seldom have complaints of this, nor do we observe dilatation of the pupil; general languor, want of appetite, troublesome diarrhœa, perspiration about the head and rapidity of pulse, being in them usually obscured.

I have ventured to bring these few remarks before you, as the outcome of some little observation and experience, and in the hopes of stimulating discussion on a subject which seems to afford a promising field for future investigation.

ANNOUNCEMENTS FOR THE MONTH.

SOCIETY MEETINGS.

Chicago Medical Society—Mondays, March 4 and 18.

Chicago Society of Physicians and Surgeons—Mondays, March 11 and 25.

CLINICS.

MONDAY.

Eye and Ear Infirmary—2 to 4 p. m., by Prof. Holmes and Dr. Hotz—2 p. m., Prof. Jones.

Mercy Hospital—2 to 3 p. m. Surgical, by Prof. Andrews.

Rush Medical College—1:30 p. m. Medical, by Dr. Bridge.

County Hospital—8 p. m. Necropsy, by Dr. Danforth.

Woman's Medical College—3 p. m. Surgical, by Prof. Owens.

TUESDAY.

County Hospital—1:30 p. m. Medical, by Prof. Lyman; 2:30 p. m. Surgical, by Prof. Parkes.

Mercy Hospital—2 p. m. Medical, by Prof. Hollister.

Eye and Ear Infirmary—2 p. m. Prof. Jones.

WEDNESDAY.

County Hospital—1:30 p. m. Ophthalmological, by Dr. Montgomery. 2:30 p. m. Gynecological, by Dr. Bridge.

Mercy Hospital—2 p. m. Eye and Ear, by Prof. Jones.

Rush Medical College—4 p. m. Diseases of the Chest, by Prof. Ross.

THURSDAY.

Mercy Hospital—2 p. m. Medical, by Prof. Davis.

Rush Medical College—1:30 p. m. Neurological, by Prof. Lyman.

Eye and Ear Infirmary—2 to 4 p. m. Operations by Prof. Holmes and Dr. Hotz.

FRIDAY.

Mercy Hospital—2 p. m. Medical, by Prof. Davis.

County Hospital—1:30 p. m. Medical, by Prof. Quine; 2:30 p. m., Surgical, by Prof. Powell.

Woman's Medical College—10 p. m. Ophthalmological, by Dr. Montgomery.

SATURDAY.

Rush Medical College—2 p. m. Surgical, Prof. Gunn.

Chicago Medical College—2 p. m. Surgical, by Prof. Andrews and Isham; 3 p. m., Diseases of the Chest, by Prof. Johnson.

Woman's Medical College—12 m. Gynecological, by Prof. Fitch; 3 p. m. Dermatological, Dr. Maynard.

Special Clinics daily, from 2 to 4 p. m., at the South Side Dispensary, and at the Central Free Dispensary.

For schedule of lectures at the colleges, apply to the college janitors.

THE

Chicago Medical Journal

AND

EXAMINER.

VOL. XXXVI.—APRIL, 1878.—No. 4.

Pathological Transactions of the Chicago Medical Society.

EDITED BY DR. I. N. DANFORTH, ASSISTED BY DR. W. T. BELFIELD.

I.

CASE OF ACUTE HEPATITIS.

BY DR. BELFIELD.

Mrs. P——, 40 years of age, was admitted to the hospital December 20, 1877. She presented no symptoms of local lesion, but appeared to suffer from a general failure of the vital powers which had existed since her last confinement, six weeks previously. She was quite feeble and emaciated; her functions were sluggishly performed, her appetite and sleep were very poor.

No active manifestations of disease occurred until February 6th, when a chill, followed by vomiting, a dull pain in the right hypochondrium, and a high febrile movement announced the advent of an acute affection. Within 48 hours there appeared the usual accompaniments of that adynamic state known as the

"typhoid condition," viz: a dry, brown tongue; a rapid, compressible pulse; a general tremor of the muscles; sordes upon the teeth; great mental prostration, and a dark flush upon the face. Feb. 7th—There was considerable tenderness and tympanites over the whole abdomen. Feb. 8th—Jaundice was observed; the stools were found to be very light in color, while the urine was heavily laden with biliary coloring matter.

Notwithstanding the free use of stimulants the patient rapidly failed; the symptoms especially the jaundice, were much aggravated, and death occurred Feb. 17.

On section the liver was found to be smooth and somewhat enlarged in all its dimensions. From its cut surface there oozed considerable thin, watery blood. There were visible on the external as well as on the cut surfaces of the organ, numerous discolored, yellowish, soft spots varying in size from a pin's head to a pea, many of which, as was evident to the unassisted eye, were perforated by the interlobular veins and veinlets.

Microscopic examination revealed around the interlobular vessels an accumulation of young, indifferent cells, which filled completely the interlobular spaces and, indeed, encroached largely upon the acini themselves; the vessels, also, seemed somewhat compressed. There appeared to be no intercellular substance, except that occasional fibers were observed to traverse the masses of cells in the immediate vicinity of the vessels.

The liver-cells themselves were much swollen, rounded and quite cloudy from the presence of granular matter. Many of the nuclei were obscured by this cloud, while other cells presented each two distinct nuclei and nucleoli. Occasional free nuclei were also observed. The liver cells appeared to be separated from one another by considerable spaces, which contained, however, no other structure than granules.

Differentiation between the proper cells of the lobules and the adventitious cells of the interlobular growth, was rendered easy by the fact that the former were deeply tinged with biliary matter, while the latter were quite destitute of color.

II.

CASE OF INDURATING INFLAMMATION OF LIVER AND ACUTE DESQUAMATIVE NEPHRITIS.

By Dr. Belfield.

H. H——, 72 years old, was admitted to the hospital February 5, 1878. He had enjoyed excellent health, free from any taint, inherited or acquired, until three months previously, when he fell a victim to ague. For five weeks he shook daily, and then obtained relief.

Three weeks later he one day suffered a sharp pain in the right hypochondrium, and became very feverish. In a few days the severity of the pain and fever had somewhat subsided, but he had never regained sufficient strength to leave his bed.

Four days prior to admission he felt a sharp pain again over the liver, and soon his abdomen began to enlarge.

On admission he was well-nourished, his functions well performed; his bowels moved daily, the stools being soft and brown. The abdomen was much distended, partly by liquid and partly by gas; the liver dulness was imperceptible below the seventh rib. There was marked tenderness in the right and left hypochondriac regions. There was some œdema of the lower lobe of the right lung, and slight swelling of the feet. The heart sounds were normal. Pulse 120, temperature 103½.

The urine was of light brown color and low specific gravity, containing about ten per cent. of albumen, numerous small epithelial and granular casts, and much loose renal epithelium.

Feb. 7.—Intense jaundice has been developed.

Feb. 9, 10 and 11, he suffered from constant hiccough, the other symptoms remaining unchanged, except that his pulse and temperature were about normal.

Feb. 13.—He had a chill, followed by headache, fever and vomiting.

Feb. 14.—Another chill, with severe pain across the loins.

Chills occurred daily on the 15th, 16th and 17th. The

general symptoms did not change much, though he was evidently losing strength.

Death occurred Feb. 21. An examination showed considerable transudation into the peritoneal sac as well as into the general connective tissue of the lower extremities.

The spleen was some ten inches long, five inches broad, three and a half inches thick; its consistence was unusually firm.

The kidneys were enlarged, and in their medullary portions at least, hyperæmic. The liver was slightly but uniformly decreased in size, and deeply stained with bile; its surface presented numerous elevations, varying in size from a pin's head to a bean. The tissues generally were deeply tinged with biliary coloring matters.

Microscopic examination of the kidney revealed an excellent example of "cloudy swelling." The granular, swollen, oblong epithelial cells nearly obliterated the calibre of the dilated tubules. The nuclei were generally somewhat indistinct.

The microscopic anatomy of the liver, however, was especially interesting. Here were the evidences of that indurating inflammation which follows long-continued or oft-repeated hyperæmia of the organ. The liver-cells were, on the average, perhaps a little larger than normal, but were highly granular, the granules having in some instances coalesced so as to form fat drops, which lay in and around the cells.

The interlobular spaces were extremely broad, their breadth having been attained, apparently, at the expense of the lobuli, which were correspondingly diminished in diameter.

The interlobular spaces consisted of spindle-cells, fibers and round, indifferent cells. The spindle-cells were usually observed in the central portions, near the portal vessels. Mingled with these, and extending beyond them toward the lobules, were thick straight fibers. Scattered over the entire interlobular space, but collected in great numbers at the margins of the lobules were the small round cells.

These two cases exemplify the first two stages of indurating inflammation of the liver. First as to the liver-cells: The former case showed what Virchow calls a "nutritive irritation,"—an incitation of the cells to appropriate an abnormal amount of nutri-

ment, resulting in the coagulation of certain albuminous constituents of the protoplasm and their appearance as granules. In the latter case reported, these granules had met the inevitable fate of imperfectly-nourished protoplasm and had undergone fatty degeneration, involving, in some instances, the entire cell in their ruin. Second as to the interlobular spaces: In the former case reported, these were filled almost exclusively with small, round, indifferent cells, the products of formative irritation of nuclei as well as of migration from vessels. The few fibers scattered through the mass, however, indicated conclusively that the tendency of these young cells was toward development; that the continuance of the process would have resulted in the formation of connective tissue.

In the second case reported, time had been allowed for the continuance of the process, and there had resulted the formation of the closely-packed spindle-cells, and the long straight fibres which surrounded the vessels. That the developing process had not ceased was proved by the presence, at the margins of the lobules, of myriad small cells capable of a similar development and further encroachment upon the acini. It is interesting to note that the microscopic appearances fulfill the expectations which might be based upon the clinical histories of the respective cases. In that of the woman, the morbid process had not, probably, existed more than ten days, nor was there any history of a previous hyperæmia exceeding physiological limits; hence the morbid appearances were those of a very early stage in the departure from normal action. In the second case, however, there had been daily an active hyperæmia of the liver (perhaps beyond the physiological limit) during the five weeks of his suffering from ague; and there had been, three weeks later, a decidedly pathological engorgement of the organ. Hence it is highly probable that the attack which immediately preceded his admission to the hospital was a mere exacerbation of a process which had begun several weeks previously. The morbid appearances, therefore, were those of an advanced and advancing stage.

III.

CASE OF AMYLOID DEGENERATION OF LIVER, SPLEEN AND KIDNEYS.

By Dr. Belfield.

Jos. K ——, aged 21, was admitted to the medical ward of the hospital, Sept. 28, 1877, and gave the following history.

There was no record of consumption in his family history. He had enjoyed robust health until June, 1874, when he suffered a six weeks' attack of bronchitis. After that time he remained entirely free from a cough until November, 1875, when he took cold again, and from that time was subject to a constant cough, at first dry and hacking, but subsequently accompanied with profuse expectoration, which had been yellow for almost a year prior to admission.

In December, 1876, he sprained himself one day while attempting to lift a very heavy weight. Next day his back was very stiff and sore, and became gradually worse. In March he noticed a lump in the course of the spine. At this time he had severe vomiting and purging for several days, but soon recovered his usual health. He noticed also a progressive emaciation which began about November, 1876.

In January, 1877, he had considerable pain in the right hypochondriac region, occurring at intervals for several weeks. From May to August, 1876, his right leg was much swollen, but neither tender nor painful. There was no œdema in the other leg nor elsewhere.

On admission he was much emaciated; his appetite and sleep were fair; his bowels moved, on the average, six times daily—the stools being of light yellow color; his tongue was clean and moist; his skin cool; pulse 100, rather small but not weak; temperature 98½. There was marked backward curvature of the spine, the most prominent point being the spinous process of the tenth dorsal vertebra. The skin was very translucent, the abdominal and thoracic cutaneous veins appearing quite large.

On examination there was found complete consolidation of the upper lobe of the right lung, except where a small cavity existed just below the clavicle; there was also infiltration at the left apex.

The hepatic dulness began at the fourth interspace and extended two inches below the level of the umbilicus. The free border of the liver, quite hard and rounded, could be traced on this level to the median line; thence the left lobe could be felt extending to the left hypochondriac region, its lower border on a level with the umbilicus. There were numerous tender spots over this hepatic area.

The spleen was not much enlarged vertically. Its anterior limit could not be well determined, owing to the intrusion of the enlarged liver. Its lower border could be felt just below the margin of the ribs.

The patient had been under treatment in the surgical wards for spinal caries during two months previous. On August 1 his urine had been of acid reaction, specific gravity 1013, and had contained five per cent. of albumen. No tube-casts were discovered. On admission to the medical wards (Sept. 28) the urine contained neither albumen nor casts.

His subsequent history was one of gradual decline. In November he had an obstinate diarrhœa; in December, an inflammation of the right knee. In January the urine contained ten per cent. of albumen and numerous hyaline and granular tube-casts. No record was made as to the quantity of urine passed in 24 hours.

Death occurred Feb. 9. An examination revealed a few ounces of clear serum in the peritoneal cavity. The liver was enormously enlarged, occupying a considerable portion of the abdominal cavity; yet this enlargement was symmetrical, so that the general outlines of the organ were not materially altered; its tissue was very smooth, firm, dense and elastic; the edges were thick and rounded. The cut surface was of pale red, waxy appearance—dry, hard and bloodless. The individual lobules were much enlarged and very distinctly outlined by white boundary-lines. A thin section was translucent. The kidneys were large, smooth, pale and firm, the enlargement being due to thicken-

ing of the cortical rather than of the medullary portion. The spleen was but little enlarged, but was firm, dense, and almost bloodless. But a small fragment of the right lung remained, the rest having been disorganized. The left lung presented a large cavity, numerous cheesy masses and many miliary tubercles. There was also extensive caries of the lower dorsal vertebræ. Microscopic sections exhibited admirably the iodine coloration. Entire lobules of the liver, excepting only the margins, presented the mahogany red color. The walls of the interlobular vessels were unusually thick, their calibre diminished. The liver cells were much enlarged, swollen, and rounded; they appeared to have no nuclei. In some instances there seemed to have been coalescence of two or more cells, from the obliteration of the intercellular substance. The cells at the periphery had, in many cases, undergone fatty degeneration. The cortical portion of the kidney was thickened and anæmic. The walls of the vessels were thickened; many of the vasa recta and nearly all of the malpighian bodies exhibited the mahogany-red color on the addition of iodine. The spleen was not much enlarged but was very dense and firm. Many of the malpighian bodies and vessels presented the characteristic color after staining with iodine.

IV.

CASE OF FIBRO-CYSTIC TUMOR OF THE BREAST.

By Prof. P. S. Hayes.

I was consulted Sept. 18, 1877, by Mrs. D., aged 47, who ten years previously had noticed a tumor as large as a pea at the outer side of the left nipple. It had increased in size slowly but continuously ever since, and was at the time of examination much larger than the mammary gland itself. It had never been painful, nor had it caused other discomfort than that produced by its weight; the growth of the tumor had not been retarded by the menopause, which had been passed some years previously. There were also two tumors, one on either side of the neck just above the clavicle. That on the left side had appeared simultaneously

with that in the breast, had gradually enlarged, but had ceased growing several years previously. The pectoral tumor was quite movable, the nipple flattened but not retracted; the skin appeared normal except that in the region of the nipple it was of a bluish tint, due to the presence of dilated capillaries, and was here adherent to the tumor beneath. The breast was firm and elastic and contained circumscribed areas where fluctuation was more or less distinct. There were no enlarged glands in the axilla. The growths were pronounced non-malignant fibro-cystic tumors.

Sept. 20 I removed the largest tumor, making a triangular flap whose apex was at the axilla and base at the sternum. The growth was easily removed, there being no adhesions. The patient made a rapid recovery. The tumor weighed 4¼ pounds; was 8½ inches long, 6 inches broad, and 4 thick. It contained numerous cysts, the contents of which varied in color from yellowish-white to reddish-brown, and in consistence from serum to white of egg.

Microscopy.—A thin section of the tumor removed by Dr. Hayes shows the structure of "Adeno-Fibroma." The connective tissue of the interlobular spaces is markedly increased; and this increase is made up of a mixture of round cells, spindle cells, and what may very properly be called nucleated fibers. These three structural elements represent as many stages of differentiation of the same cells; and, so far as the connective tissue is concerned, its abnormality consists in the presence of an undue amount of undeveloped or half-grown cells; in other words, of cells which multiply so rapidly that very many of them never reach maturity. The lobules (acini) are distended with half-grown epithelial cells, and from many of them diverticula or infundibula have developed, these diverticula being also crowded with proliferating epithelial cells. But the two classes of proliferating cells—that is, connective tissue cells and proper gland cells—retain their typical forms. They grow and multiply in accordance with their recognized law of growth. Hence this great mass of distended lobules and connective tissue cannot properly be regarded as a malignant growth. But so nearly is it

allied to the malignant tumors, that if removed, it is more than likely to recur, not as an adenoma, but as a true carcinoma, presenting a veritable atypical cell growth. I. N. D.

V.

CASE OF CARCINOMA OF INTESTINE.

By Dr. Dewey.

A. C., female, 50 years old, married, and of Swedish birth, was admitted to the Illinois Northern Hospital for the Insane April 19, 1875, suffering from secondary dementia, with predominant religious delusions. Although abominably filthy in her habits, she considered her person holy and sacred. Her previous history could not be ascertained.

No marked change in mental or physical condition was observed until February, 1877, when she began to lose flesh, strength and appetite. She seemed to suffer griping pains in the bowels, and usually sat upon the floor, her head bowed, her knees drawn up, her hands clasped tightly across her stomach; yet she never acknowledged any pain.

Feb. 26.—Jaundice was observed. Patient refused to answer questions and violently resisted all attempts at physical examination.

March 16.—Vomiting and constipation had become constant symptoms. The abdomen was everywhere hard and tense; evacuations induced by enemata were of grayish color and very offensive. There were frequent periods of extreme prostration.

March 21.—Patient's actions indicate severe pain in the right hypochondriac region; pulse is rapid and thready.

March 22.—There is pain in the left side, also; her general condition is unimproved; she vomits very offensive greenish fluid.

March 24.—We find a soft, fluctuating tumor 1½ inches in diameter, situated in the median line three inches above the umbilicus. There is general flatness on percussion over the epigastrium, but no distension. Death occurred March 25.

An examination 18 hours later showed the abdominal walls adherent to the transverse colon and to one or two folds of the small intestine on the left of the median line, over an irregular space four or five inches in diameter. The tumor above mentioned protruded between the recti muscles, covered only by the integument and peritoneum. It was of irregularly oval shape, four by six inches in extent, involving the walls of the stomach, transverse colon, small intestines and abdominal coverings.

The stomach was eroded upon its lower internal surface, its walls thickened and adherent to the transverse colon. An irregular, sinuous canal led from one to the other, about two and one-half or three inches in length. The surfaces of the different viscera presented many slight patches of plastic exudation, while numerous flocculi of gray lymph floated in the serum which partly filled the abdominal cavity. The intestines contained much ichorous pus. No enlarged glands nor other deposits were found. A portion of the tumor was sent to Dr. Danforth for microscopic examination.

Microscopy.—The specimen presented, under the microscope, an alveolated network of connective tissue, containing in the interspaces dense groups of atypical cells. Their sections showed the usual cylindriform cell-growth of cancer. The case was one of cancerous infection of the lymphatic vessels and glands.

I. N. D.

VI.

CASE OF ENCEPHALOID CANCER OF KIDNEY.

By Dr. Belfield.

Mrs. B., aged 63, was admitted to the hospital Jan. 23, 1878. Her health had been uniformly excellent until two years previously, when she began to suffer occasional pain, brief but sharp, in the right iliac and lumbar regions. This pain was especially severe when the bladder was full and during the act of micturition. With the lapse of time these pains occurred more frequently; a little blood was occasionally noticed in the urine; and finally a well-defined tumor became apparent just to the right of the umbilicus. Meanwhile her general health declined; she

lost flesh rapidly; her symptoms became gradually aggravated, the pain, size of tumor and quantity of blood in the urine constantly increasing.

On admission, the patient was very feeble and emaciated. The urine contained about 10 per cent. of albumen; large granular tube-casts, and numerous cells widely differing in size and shape—*i. e.*, atypical. A considerable admixture of blood, sometimes clotted, was constantly present. A semi-fluctuating, somewhat movable, globular tumor, painful but not tender, and as large as an infant's head, occupied the right iliac and umbilical regions.

The patient's general health steadily declined; facial erysipelas supervened, and death occurred Feb. 2.

Upon opening the abdominal cavity, the viscera were found displaced, distorted, but matted together by firm adhesions into one chaotic mass. Closer inspection and dissection resolved this mass into a large central tumor, to which were adherent the pyloric end of the stomach, the head of the pancreas, the right lobe of the liver and the gall-bladder; the ascending and transverse colon, and several folds of small intestines. There appeared to be nothing resembling a kidney on the right side. There was no appearance of general peritonitis.

The tumor itself was of oval shape, about nine inches long and six inches in its conjugate diameter. It extended from the lower surface of the liver to the right iliac fossa, lying in contact with the posterior abdominal walls and with the spinal column, its anterior surface being covered by the peritoneum. Beneath the latter membrane was a close interlacement of veins, many of which were as large as a goose quill. The ureter was traced into the central portion of the mass. Many retro-peritoneal and mesenteric glands were much enlarged and quite soft.

Disseminated through the tumor, but especially numerous and large near the surface, were cysts which varied in size from a pea to a walnut, and from which there escaped upon puncture a thin, milky liquid, containing much *débris* of tissue.

Section revealed marked differences in appearance between different portions of the mass. The outer or cortical portion (that part farthest from the ureter) was of light brown color, and had suffered considerable loss of tissue in the formation of cysts. At

the depth of one and a half inches, the color changed abruptly to a dirty white. Both layers of tissue but especially the outer were quite pultaceous, crumbling readily under the finger. There was no gross appearance of renal structure except at the lower extremity of the mass. Here, separated by sharp lines of demarcation from the softened tissues was a mass as large as a walnut of what appeared to be normal kidney.

Microscopy.—A section taken from the cortical portion of the kidney consisted of a mass of cells without any visible intercellular substance, divided into irregular groups by a fibrous framework, or rather permeated here and there by delicate threads of fibrous tissue. The cells varied in size from a blood corpuscle to a bladder epithelial cell, and exhibited the greatest diversity of contour, being circular, oval, polygonal, candate, etc. The nuclei and nucleoli were generally very distinct; many of the cells contained each two nuclei. In most of them the protoplasm was quite granular, sometimes obscuring the nuclei; in some the protoplasm was more or less completely disintegrated, leaving the nuclei nearly or quite free. Almost every field contained a considerable number of oil-drops.

The fibrous tissue of the growth was very scanty and presented no especial features. Sections from the deeper portion of the tumor, and from the enlarged lymphatic glands exhibited essentially the same features, except that the cellular elements were in an advanced state of fatty degeneration.

A section from the small part of apparently healthy kidney showed considerable degeneration. The highly granular condition of all the anatomical elements rendered somewhat difficult the differentiation between malpighian tufts, vessels and tubules. In consequence of this cloudiness the nuclei of the tubular epithelium were quite indistinct; moreover, numerous oil-drops attested the advanced stage of the degenerative process.

VII.

CASE OF CIRRHOSIS OF LIVER AND KIDNEYS.

By C. F. Smolt, M. D.

On Nov. 27, 1877, I was called to visit Hattie S., aged 37. Her health had never been good, though she had not suffered from any definite disease. Her recovery had been slow after each of her confinements (the last of which had occurred May 20, 1877). On June 4, one of her children was attacked with scarlet fever, and subsequently three others developed it. During their illness the patient was their only nurse, and she was then herself confined to bed for four weeks, suffering from a disease whose name she did not know. She remembers simply that she had several chills and a continuous fever. After that time her breathing became more rapid; her skin acquired an ashen hue; she became subject to a short, hacking cough; her strength gradually failed. Nov. 22 she first noticed slight swelling of the feet.

I found the patient weak and emaciated; the pulse was rapid and feeble; there was a mitral regurgitant murmur; dyspnœa, apparently due largely to the distension of the abdomen with gas. The urine contained about 30 per cent. of albumen and numerous epithelial casts. The dropsy gradually extended up to the body. Slight arterial hemorrhages from the lungs occurred Jan. 17th and 21st. Subsequent to the latter date the patient was unable to leave her bed, though compelled to sit upright. Several "sinking spells" occurred during the week preceding death, which occurred Feb. 6.

Post mortem examination revealed a considerable quantity of serous liquid in the left pleural sac; the lower lobe of the right lung was consolidated; the abdomen contained but little liquid. The kidneys were small and dense; the cortical portion diminished in thickness.

Microscopy. — Upon microscopic examination, the tubules were observed to be of variable size, some greatly dilated and

stuffed with epithelium, others contracted and almost empty. Perhaps the most striking feature was the thickness of the connective tissue constituting the capsules of the malpighian bodies and the outer coat of the vessels. The tubular epithelium was highly granular from the presence of fat, which had in many instances gathered into drops, which were visible both within and outside of the cells.

The malpighian tufts were generally much decreased in size, and were surrounded, as were the vessels, by a small-celled infiltrate. W. T. B.

VIII.

CASE OF TUBERCULOUS ULCERATION OF THE INTESTINE.

By Dr. Belfield.

M. B——, a Hollander, 54 years old, was admitted to the hospital March 9, 1878. The lack of a common language prevented the extraction of his previous history. He was quite emaciated and feeble, his appetite and sleep were poor; he was troubled with persistent diarrhœa. We found consolidation of the upper lobe of the right lung, with a small cavity at the apex; also some infiltration at the left apex. There was considerable tenderness and some pain over the abdomen, especially in the right iliac region. He rapidly declined, and died March 19.

An examination showed cheesy consolidation of the upper lobe of the right lung; a small cavity at its apex; a considerable quantity of turbid serum in the peritoneal sac; fatty degeneration of the liver; caseous enlargement of the mesenteric lymph-glands and cheesy degeneration and ulceration of the solitary and agminated glands.

The latter lesions were the objects of especial interest. The enlarged and ulcerated glands were found at intervals of one to four inches along the course of the ileum, most numerous near the ileo-caecal valve. In many instances these glands had suffered not only enlargement but also softening and

disintegration, and there had resulted the oval, transversely-placed ulcers which are so often (and improperly) styled tuberculous. These ulcers varied in size; the largest, which had evidently resulted from the fusion of several smaller ulcers, extended around the greater part of the intestinal mucous circumference.

These ulcers, while primarily scrofulous, were secondarily tuberculous; in other words the absorption of the products of the glandular inflammation had caused inflammatory action at various points along the lymphatic vessels leading from the ulcers to the mesenteric glands. The results of this inflammatory action appeared as gray, miliary nodules (tubercles) which thickly studded the subperitoneal coat of the intestine at the sites of the ulcers, and thence staked out the course of the lymphatic vessel around the intestine and across the mesentery to the mesenteric glands.

This case presents several points of interest: 1—The concurrence of pulmonary and intestinal consumption; in other words, cheesy degeneration of inflammatory products in both air-vesicles and lymph-glands. 2—The association of miliary tubercle with the intestinal but not with the pulmonary consumption. 3—The admirable demonstration of the fact that tubercle "belongs," as Buhl says "to the lymphatic system;" and furthermore that it is developed in lymphatic channels through which there pass irritant substances (proved by the inflamed condition of the mesenteric glands in which the lymphatic channels terminated.)

I take pleasure in announcing that Dr. W. T. Belfield will hereafter assist me in editing the Pathological Transactions of the Chicago Medical Society, and in acknowledging his assistance in reporting matter for the present issue. The present number of the Transactions is almost entirely made up of cases which have been used to illustrate my weekly lectures in the Necropsy Theatre of Cook County Hospital, and have been reported for the Society by Dr. Belfield.

I. N. DANFORTH.

Original Lectures.

PARALYSIS AND CONVULSIONS AS EFFECTS OF DISEASES OF THE BASE OF THE BRAIN.

DELIVERED IN CHICAGO FEBRUARY 21ST, 22D AND 23D, 1878.

BY DR. BROWN-SÉQUARD.

(Reported for the Journal and Examiner.)

SECOND LECTURE.

GENTLEMEN: In the last lecture (the first of this course), I have tried to show that a decussation of the nerve fibers in the base of the brain, although we know it to exist anatomically, is not the least essential for the communication between the brain and the muscles of the body. For the present, continuing the demonstration which I began in the first lecture, I have to speak of the crura cerebri. You remember I told you that a lesion in one-half of the angle in the crura cerebri and medulla oblongata, may take on various symptoms as regards paralysis, or no paralysis at all. I also said that a lesion occupying half the pons varolii either produces no paralysis or produces a great variety of paralysis as regards its extent and seat. The same thing can be said as regards the crura cerebri. A lesion destroying the greater part of the crura cerebri, can produce the greatest variety of symptoms as regards paralysis and convulsions. And, indeed, it is a remarkable fact that any such mass of fibres as those constituting the crura cerebri, forming the only communication between the cerebral lobes, the spinal cord, the pons varolii and the medulla oblongata—that such a mass of fibers, establishing, as I have said, the only communication between the center of will-power and the muscles, can be destroyed almost entirely without

any marked paralysis. I must say that when I first learned this fact I was exceedingly surprised. But since then I have gathered from journals, from books and from my own experience, cases until now I have more than 27 of more or less complete destruction of one of the crura cerebri, without any marked paralysis in the limbs. In all these cases there were symptoms which pretty clearly showed the place of lesion. But as regards paralysis there were none—at least, none were known by the medical men who observed the patients, and the main fact remains that there was nothing of that gross paralysis which we observe frequently arising from some slight lesion in some part of the surface of the brain, the medulla or posterior lobe of the brain. So that we can say that, with the destruction of tissue, which is considerable in that part which is the only channel of communication between the brain and the muscles, there has been very little paralysis, if any; and, indeed, none was noticed in most cases. On the contrary, paralysis has appeared on the side corresponding with that of the lesion. This fact is in opposition with what is admitted. In other cases, paralysis has appeared where it ought to come in all cases, admitting theories we have received to be true.

But in these cases, if you study the facts with care, you find the greatest discrepancies with the same lesion. The paralysis of the two limbs on the opposite side, may be caused by disease of the crura cerebri. Such paralysis may come from only lesion of a very small part of the crura cerebri, leaving most of it perfectly normal. And there you have really too much effect to support the theories which are generally admitted. So that in any way you turn the facts, in almost all cases, you find some figures in opposition to the views admitted. Either there is too much paralysis, or no marked paralysis, or paralysis exists where it should not, in the arm or leg or indefinitely, although the lesion is in the same part in the various cases. Such variety of effect certainly could not exist if the views admitted were true.

I pass now to another argument. One of the most interesting of facts relating to paralysis in brain disease, consists in its coming by attacks, just as convulsions come. There are a number of cases in which paralysis has come and gone—come for an hour, for a day, for two days, and then disappeared altogether,

and then has returned for a certain length of time and disappeared again. In a large number of these cases, I have concluded that the disease was in the crura cerebri, the pons varolii or the medulla oblongata. Now, if you admit that these are the only channels by which the will power can act upon the muscles upon one side of the body, you are in the presence of facts in opposition to your views. How can it be, if these fibers are destroyed, that the paralysis exists only for a few hours, and then disappears? Certainly we cannot admit that paralysis, in these cases, depends upon the destruction of the tissue establishing communication between the brain and the muscles. We must look for another reason in these cases, as well as in many others.

Another argument, of more importance, on which I should like to dwell at length, consists in the fact that in cases of disease occupying the central part of the pons varolii, and destroying the nerve fibers, not only of the center, but of the front part of the two sides of the middle line, it is not rare that instead of paralysis on the two sides of the body, as should exist if the views admitted by almost everybody are true, there is nothing but hemiplegia, that is, paralysis on one side of the body. This argument is certainly most weighty: and, indeed, the cases are not to be doubted as regards the accuracy of the observer and the details, for they come from men in whom we have confidence, and among the writers there are two, certainly, so well known that there cannot be the least doubt as regards their accuracy or their facts — Frederick Charcot and Professor Eugène, of the French Medical School. So that we have facts which show clearly that with a similar lesion on the two sides of an organ like the pons varoli, which is the only way through which fibers coming from the brain go to the muscles, instead of producing paralysis on both sides, produces only paralysis on one side, which is hemiplegia.

After having mentioned these facts, it is quite essential that I should say something which perhaps would have been well placed in the beginning of the last lecture, which is, that the most considerable variety of effects can be observed from similar lesions in the brain of man. It is in that variety of effects that we find the reason explaining why we see in one individual a paralysis on

the same side from a certain lesion, and in another individual paralysis on the opposite side; in a third, paralysis on the two sides, and in a fourth no paralysis at all; and so on, giving the greatest variety not only as regards paralysis, but as regards convulsions. This variety, in effect, indicates, as I conceive, that the cause of that variety depends on the various excitability of different parts of the nervous system. As you well know, the nervous system is a unity in such a way that no action can take place in one part without the whole mass being acted upon in some measure; in the same manner that, while I am only an old man having very little muscular strength, I can shake the whole universe by the movement of my foot. If such a shock, slight as it is, can produce (as no one who knows about the transmission of motion can deny) a shock through the whole universe, can disturb everything in the universe, in a very slight way it may be, in the same way any action in any part of the nervous system produces some effect in every other part, however distant it may be. If so (and I wish I could insist upon the demonstration that it must be so, but I have no time, unfortunately) we must admit that in this case it might be so. In case the excitability of a certain part is greater than that of another, the excitation will find that particular part excitably disturbed far more than other parts, and morbid phenomena will occur in that part. If you observe what takes place when a large mass of people come from a theater or any other large room where the temperature is high, you will find that perhaps 150 will escape without meeting any bad effects from passing from the warm room into the damp, cold air, while perhaps 50 will be affected. Out of the 50 there will hardly be more than a few who will experience exactly the same effect. In all these individuals so affected, however, the same cause will have operated. In some cases cold air on the neck will make itself felt. In others it will exert its effects on the trachea, the bronchial tubes, or the skin. From pretty much the same cause, therefore, there will be a number of individuals who will have trouble with the secretions, or perhaps with the mucous membrane of the throat, or the larynx, the trachea, the bronchial tubes, the lungs, the pleura, the heart, or the pericardium. Others, on the contrary,

will experience the effects of the cold air in the bladder, the kidneys, the stomach, the bowels or liver. Any organ, in fact, in the system, may be acted upon through the same cause in most of these individuals. Even the ear, the brain, or any part of the body liable to be inflamed, may be acted upon by inflammation from such a cause. Well, if we see such variety from causes pretty much the same, we can easily understand that when hemorrhage takes place in the brain, all the various symptoms of paralysis may arise. On this point there are a great many interesting cases that I might bring forward; but there is one published by Dr. Campbell which is most interesting. A boy ten years old was seized with vomiting. Immediately after vomiting he was seized with general convulsions of the muscles of the face, neck and eyes. In a very short time a contraction took place in the blood vessels of the trunk and lower limbs, so that intense cold appeared in these parts. The pupils then contracted, and a very short time afterwards considerably dilated. The pulse became weak and small, and in twelve hours the patient died. As is usual in these cases, there were difficulties of breathing and circulation. What had caused all that? A small hemorrhage—a clot being found no larger than half a walnut, and located in one of the convolutions of the middle lobe on one side. If we were to look upon its action as having taken place according to the theory now admitted, it would have acted upon a series of centers, a center of dilatation and a center for contraction; it would have acted upon a center in communication with the muscles of the body. It would have acted also upon the stomach and other muscles of the abdomen. It would have acted in fact upon any part of the pretended centers; upon the center to arrest the heart's action, or to diminish it. We certainly cannot admit that such a series of centers can exist in a small part of the brain, but must admit the great variety in the excitability of different parts. Irritation starting from a small part of the brain, and finding some parts more excitable than others, will produce diverse effects. In that way we have a key to all these phenomena quite easy to understand.

Then, as you well know, the irritation of taenia may produce convulsions, paralysis, catalepsy, chorea; indeed every symptom

that diseases can produce, when they exist in the brain, may appear through such peripheric irritation; in the same way (as I have tried to show in an article on surgery), a nerve, by traumatic action, can produce the greatest variety of effects—paralysis, convulsions, and so on. So that, as you see, great differences of excitability in certain parts of the nervous system in different individuals, will create a great variety of effects. It is in this way that we can explain the excessive variety that diseases of the brain can produce, although existing in the same part of the brain in the various cases. Experiments consisting in burning with a white-hot iron the surface of the brains of animals, show very clearly how various are the effects of the same cause. In a great many of these animals rendered anæsthetic for a time by the injection of chloral, so as to avoid suffering, cauterization was made without the least pain. In these cases the variety of effects was impossible. In some cases there are phenomena resembling exactly those which we find in man and animals, when there is meningitis of the spine as well as of the spinal cord itself. Thus, in meningo-myelitis these phenomena appear, and appear so as to come on the two sides, while the lesion is only on one side. In one case the animal was shown to my colleague in Paris, who exclaimed, "Why, in the world, do you show us this dog; it is a dog with meningo-myelitis; what is your object?" I said, my object is to show you that there is no such thing whatever. There had been no injury to the spinal cord, and there was only a slight degree of congestion in parts of the cord, and no inflammation whatever; but still all the phenomena of meningo-myelitis existed which had been noticed by inflammation starting from the surface of the brain. In most cases of paralysis the sympathetic nerve on the same side is affected, so that the eye, the face and the ear, exhibit all the phenomena that will appear after the division of a nerve. So you see, we can find by experiment a clear demonstration that the same lesion, such as we can make in animals, will produce the most various effects.

This leads me to return now to the various points which I said I intended to establish in this course of lectures. At first I will speak of the influence that one-half the brain can exert on the body. As you well know, the theories which all have admit-

ted, and most men still admit, imply that the right half of the brain is the organ that moves the left side of the body. I have tried to show, up to this time, and will attempt the complete demonstration in this lecture and the next, that on the contrary one-half the brain may be perfectly sufficient for the functions that belong to the two sides as regards the moving of the muscles of the body. The first argument on which I will again insist as most decisive of all to establish the fact that one-half the brain is sufficient, is that a lesion existing in any part of half the brain may produce no paralysis whatever, or at any rate no marked paralysis. If you take any of the various parts of the brain, the anterior, middle, or posterior lobe, and divide one hemisphere, say at the temporal or occipital lobes, you will produce a lesion without any marked paralysis. Still more, there are cases in which several of these lobes have been destroyed without marked paralysis. And there are a number of cases (not more than four or five however), in which almost the whole extent of one hemisphere has been destroyed without any marked paralysis. One case of that kind was reported by Dr. Abercrombie, and one was published in one of the numbers of last year of my own physiological journal, and one in the Archives of Physiology, published in Paris, the fact having been recorded by a physician of Italy. But these cases are all of less significance than cases in which the disease exists in one-half of the base of the brain without any marked paralysis, for we may say if half the upper part of the brain, or if the lobes that form one hemisphere are destroyed, that the base is able to perform its functions; but when the base is destroyed in one of its parts, so that no communication can exist between one-half of the lobes and the opposite half of the brain, it is certain that such a case is more conclusive than any where the whole hemisphere, excepting the base, has been completely destroyed. If you have taken for granted what I said in the lecture yesterday, you will see that there are a number of cases in which disease may exist in one-half the pons varolii, the medulla oblongata, and the crura cerebri, where there may be destruction of the parts on one side without any marked paralysis. Therefore it is quite evident, if these cases exist (and if I had time I could mention them in detail, but they are soon to be pub-

lished, when you can look at their details), nothing remains but the conclusion that one-half of the brain acts upon either side of the body. It is clear, therefore, that the commonly adopted view is wrong, and that we must admit that one-half the brain is sufficient for the movements of the two sides of the body. It remains, however, to examine why paralysis appears in cases in which there is a lesion, and this point I will try to illustrate in my next lecture.

There are other arguments that establish that half the brain is sufficient for the movements of the two sides of the body. If we find, for instance, that disease in one-half the base of the brain produces paralysis on the corresponding side, unless we admit that some movements are constituted quite distinct from others as regards the anatomical disposition of the tissues, we must admit that this paralysis is due to the ordinary causes of paralysis, according to admitted notions. It is quite certain that what is admitted is, that one side governs the muscles of the opposite side. If so, the fact that disease on one side of the brain may produce paralysis on the corresponding side of the body is clearly in opposition to the admitted theory.

I will pass—as I am compelled to do so for lack of time—from a good many arguments bearing on this point, and come to another point of greater importance, which is that a few fibers may be sufficient to establish a communication between the brain and the muscles in the various parts of the body. When I say a few fibers, I mean relatively a few; I will not say how many, but certainly a very limited number of fibers is sufficient for the transmission of the orders of the will to the muscles. Cases are numerous, in which the base of the brain, particularly the medulla oblongata, has been so pressed upon that a very small number of fibers has remained in these parts able to transmit any order of the will from the brain to the muscles. Take the case like that of the sailor who had been continuing the duties which such men have to perform without any marked diminution of strength, or without rigidity or rapidity of movements, and who died from an acute inflammation elsewhere than in the brain. In this case it was found that the little finger could not pass through the foramen magnum, so that the medulla oblongata must have

been reduced to a small number of fibers, and the parts must have been in a very altered state. Still that man had shown no symptom of paralysis, no symptom of great disturbance of any kind. There are not many such cases; but there are, at least, to my knowledge, three or four. There are a good many cases in which the odontoid process had been displaced, and pressing upon the medulla oblongata, had reduced a great part of its size. In these cases hardly any paralysis had been noticed. There are other cases, such as fracture of the occipital bone, displacing a part of that bone, and squeezing the medulla oblongata so as to reduce it to a small number of fibers. In other cases, as one reported by Dr. John W. Ogle, of London, two tumors, both attached to the foramen magnum, the one on one side and the other on the other, had squeezed the medulla oblongata, and reduced it to a small volume indeed, and without any considerable paralysis. In fact there are many cases, in which either by outside pressure or by disease in that organ, the medulla has been greatly reduced, and no marked paralysis has been observed. In one case, reported by Dr. Abercrombie, the paralysis observed was exceedingly slight, and still Dr. Abercrombie states that an abscess occupied the whole diameter of the medulla oblongata; what the diameter was, unfortunately, he does not say. There was a considerable lesion, but very slight paralysis. It is extremely remarkable that the medulla oblongata, which, as you know, cannot be pricked without death being produced, can, however, in many cases, stand considerable alteration, considerable pressure, without any marked paralysis occurring.

I might say something as regards other parts of the base of the brain; and the argument would certainly derive force from the details of these facts; but unfortunately, for some reason, I have not been able to obtain the details. I hope it will be sufficient for me to state that there are a great many cases of considerable destruction of these various parts of the base of the brain, which extend from the lower part of the medulla oblongata up to a part of the crura cerebri in the two hemispheres, without any marked paralysis, or with paralysis quite inadequate to the lesion that exists. We must therefore draw the conclusion from these facts,

that relatively a few fibers may be quite sufficient to establish communication between the brain and the muscles.

I pass now to consider a point relating to the motor centers of the brain. I said yesterday that I could not admit in the presence of the facts which are in my possession, that there are clusters or agglomerations of cells in certain parts of the brain which are employed in a peculiar function as regards a movement. You know it is now admitted that both in front and behind the fissure of Rolando, there are cells employed in moving the arm on the opposite side. I will not discuss the facts which bear directly against admitting such view. I have already cited a good many facts in opposition to such a view. What I have to do now is to show that view which I consider as correct—that which I proposed, in a lecture in Boston some few years ago. That view consists in admitting that there are cells employed in the same functions scattered all over the brain, so that any part of the brain can be destroyed without any loss of any of the functions of that organ. These cells certainly must be united one with another by fibers; and such union must take place also, even if you have all the cells agglomerated together. There must be communication between them for concert, for harmony in action; so that the same necessity exists in this view of my own as well as in that which I reject. It makes no difference whatever, whether the fibers that establish that communication are only one line or the hundredth part of a line, or two inches in extent, as of necessity any communication is independent of length of fiber for its effects, as Prof. Flourens, of Paris, long ago, established. These facts have been too much neglected lately by experimenters who try to establish the new views concerning the existence of clusters of cells—no doubt of certain limited functions. If you take away the brain by layers, beginning with the front part, you can go until you take away almost all of the two hemispheres without any marked effect upon movements; and still very suddenly you will find paralysis appearing. That paralysis may be complete as soon as it appears, although you may have taken away only a few cells more. If you repeat the experiment, by proceeding from the back part of the brain towards the front, you will have very much the same result. In fact, the question is a

question of quantity of brain-matter, and not a question as to the function existing in one part. The demonstration given long ago by Prof. Flourens ought to have satisfied physiologists. I remember, in my younger days when I began to lecture, I repeated the experiment a great many times and found it correct. Since that time I have seen no reason to change my opinion. What, then, can we say in the presence of such facts? Certainly they demonstrate that the function does not belong to a cluster of cells anywhere, but belongs to cells scattered everywhere, so that any part of the brain can be taken away without loss of function. Pathological facts in man bear out the same thing. When we find the anterior lobes have been destroyed by fracture, taking away a large part of, or by any disease destroying, the tissue, all such cases very different from each other, but all having some vessels either completely destroyed, or taken away, or extremely altered, there was either no paralysis or paralysis inadequate to the lesion. I do not mean to say that there is never paralysis in these cases. On the contrary it exists sometimes; and indeed disease located in some part of the anterior lobes can produce paralysis. But there are a great many cases in which the destruction may involve the two anterior lobes without making paralysis. In the same way, although in a smaller number of cases, destruction of the two middle lobes has been observed without any marked paralysis.

I need not say that it has been observed that destruction of the two posterior lobes has also existed without paralysis. I need not say that no physiologist now feels inclined to admit that the posterior lobes of the brain are employed in any way whatever in movements of the body. But the very view that the posterior lobes are not employed, according to modern physiologists, for moving any part of the body, is in opposition to a number of facts quite different from those I have mentioned, in which a lesion of a small extent in the posterior lobes has produced paralysis; so that degeneration or destruction on the two sides of the brain, of considerable size, may not be followed by paralysis, while a lesion of a small extent in these two parts can produce paralysis. We are entitled, therefore, to look upon paralysis as something different from what it is admitted to be. Indeed, it is shown from the facts we have presented, that there is no part of the brain,

which sometimes being destroyed, has not allowed the persistence of voluntary movement. In the presence of such facts, we must admit that cells employed to move any part of the body are scattered about the brain.

The next point that I wish to establish is with regard to what is called the *clavier theory*. This is the theory according to which communication in a direct way takes place between the brain and muscles. As regards this view, however, the number of facts against it is immense. The theory, at present, has been modified. Originally it was admitted that the fibers which move a given muscle must all be extended like wires to the muscle through the spinal cord and cerebral lobes. It is exactly, in part at least, the very same theory which is now admitted by Terris and other leading physiologists. This theory now is that the pretended centers which are placed in the middle lobe, and in a very limited part of the anterior lobe, are connected by fibers with the corpus striatum, and also by some fibers with the crura cerebri, chiefly in their anterior part, to continue downwards in the pons varolii or in the medulla oblongata, occupying, according to certain physiologists, the anterior pyramids, and according to others, the lateral columns of the medulla oblongata. So that the theory is pretty much the same as it was long ago, excepting that most of these fibers are now recognized to pass from cells, and not to go directly from the brain and muscles without any communication with the cells. It makes no difference whether there are cells or not. The same arguments, brought long ago against the *clavier* theory, are good against the new one. It is impossible to admit the view by reason of the facts already presented. I need not repeat them. We find the two crura cerebri destroyed in the anterior part without marked paralysis; we find the two corpora striata almost completely destroyed without marked paralysis. According to the *clavier* theory, when the will wishes to produce a certain movement, it has but to strike a key, which acts upon certain fibers, producing movement. No such thing certainly exists. When we see the medulla oblongata so reduced that only about one-fifth remains, such cases certainly leave no doubt that such transmission of nerve currents between the brain and the muscles does not exist. It is certain that we

must admit that a few fibers are sufficient; and if so, it leads to the necessity of admitting something else than mere nerve current.

We find not only from these facts, but from disease of the spinal cord, that a something like a message must be sent through the few wires that remain in cases of considerable lesion in the brain and spinal cord in voluntary movements. Through these few fibers the will can transmit a message; but there is no possibility, that I can see, of understanding that these few fibers may be sufficient to transmit direct action to the muscles. You know our voluntary movements are not voluntary all the time—that if we wish to walk from here to a place ten feet in front of us, we give the order in a clear way, as otherwise our movements will not be executed just as we wish. We must unconsciously give the end to be reached. We do not give any other order but mention the end, and when the machinery has been set at work the movements will continue. The power of will in these cases is exceedingly limited. The power of the will consists only in giving the order to reach the end. The execution is performed by the parts located in the spinal cord, from the nerves which come from the base of the brain, and are located in the *medulla oblongata.*

If we understood that it is only an order which is given to reach an end, or to execute a certain thing, there is no need of a great number of fibers. The order is not given by a constant transmission of a current all the time. The order we give once for all, and if we try to interfere with the movements of our limbs which we are working, we do not execute the movement well. In every movement that we execute, either with the fingers, when we play the piano, or any movement of any kind executing anything that requires exactitude in movement and also in reaching an end—in all these cases if we interfere we become clumsy. If we look at our legs when we walk, if we try to ameliorate our steps, we become extremely clumsy and do not walk as well as when we do not pay attention at all to the order to move. So it is when we want to shoot with a gun. If we pay attention to the movements of the fingers, and if we do not pay attention only to the end, we are sure to miss the object. So that the

great point is to understand the end clearly, and let the mechanism execute what is to be done to reach that end. If so, when we move, when we execute a series of movements, it is not a series of nerve currents coming from the brain to the muscles which takes place. An order given implies a message sent. But if communication can take place between cells; if cells are able to understand a message; if cells are endowed with power similar to the power in the brain in the act of thinking, it is quite easy to understand that a few fibers are perfectly sufficient. But if we do not admit that it is from a message that we have an order to the muscles, I am at a loss to understand how a few fibers will be sufficient for the transmission of the orders of the will to the muscles.

To-morrow I intend to examine at length the diagnosis of paralysis and convulsions in the various parts of the base of the brain, and come also to that most important part of this course of lectures, although it will be rather a short one—that is, the therapeutics of the nervous system, as we can ground it now on the new theories I have tried to bring forward.

EVIDENCES OF MEDICAL ACTIVITY IN THE UNITED STATES FOUND IN FOREIGN JOURNALS.—Time was when medical authors and medical treatises of American origin were greeted on the other side of the water with contemptuous disdain. It is curious to note the constantly increasing change in this particular. For example, the latest issue of the venerable and conservative *Edinburgh Medical Journal* contains an original communication from an American author; five of its ten book reviews relate to American publications, all favorably criticized; and in the Periscope, which embraces 16 items there are nine credited to American Medical journals.

CLAUDE BERNARD the great physiologist, died at Paris, on February 11th.

Original Communications.

THE RELATION OF AMETROPIA TO BLEPHARITIS CILIARIS.

By F. C. Hotz, M. D.

In a great many cases of blepharitis ciliaris* which present themselves for treatment, the disease has persisted for a period of several months, if not years. Perhaps the patient has never had any treatment for his lid trouble and thus its persistence is not to be wondered at. But often we are informed that the patient has been under the care of experienced oculists; that the lids improved and seemed to get well; but that sooner or later the inflammation recurred. Such patients of course, become rather discouraged by this experience and physicians who have occasion to observe their frequent relapses are misled into the belief that blepharitis is a very intractable disease. And yet it is far from being so. Its obstinacy is more apparent than real, and can, I think, be easily accounted for. We must only remember that the patient does not consider the disease dangerous because it does not directly impair his sight; that it is the unsightly appearance of the ulcerations and crusts upon his lids for which he seeks medical advice. By a few local applications these ulcers are so nearly healed that the edges of the lids do not become crusted over any longer. The defacement is removed, although the disease is not eradicated. But as the patient was concerned only about the disfigurement, he abandons treatment as soon as the cause of his anxiety is removed, and before a thorough cure can be accom-

* This term is now commonly used to designate the eczematous inflammation which shows itself along the edges of the eyelids and involves the follicles of the eyelashes (cilia). It is also called ophthalmia tarsi.

plished. The lids remain in a morbid state, and the most insignificant irritation suffices to rekindle the inflammation. This is not likely to occur if the treatment is properly continued until the lids do not show any infiltration or congestion or desquamation. But these are exceptional cases, and therefore a permanent cure of blepharitis is seldom recorded.

This explanation is not invalidated by the fact that many patients have used one or another remedy for blepharitis many months without any lasting benefit. I lay great stress upon this one point: that the surgeon himself must attend to the treatment, if it is to be efficient. For I have been convinced by numerous observations that to leave the local treatment of the lids to the patient or, if it is a child, to the parents, amounts to little or no treatment. Parents are too kind-hearted to insist upon thoroughly cleansing the crusted lids when at their first attempt the little darling begins to scream; and they are too timid to apply the ointment to the very edge of the lid. The remedy is either rubbed upon the crusts or smeared all over the cutaneous surface of the lid except its edge. And in either case it will be of just as much benefit as if it had not been used at all.

Under these circumstances it would be surprising, indeed, if a relapse of the disease were less frequent when the affected tissues have neither recovered their sound molecular structure nor resumed their normal functions. The untimely interruption, and the insufficient mode of the treatment, therefore, seem to me to fully explain, in the majority of cases of blepharitis, the unsatisfactory results so commonly obtained in private and hospital practice. And I do not think it is necessary to look beyond these very plain causes and attribute to the refraction of the eye any great influence upon the development of blepharitis ciliaris. This view of a direct relation between refraction and tarsal inflammation was first entertained by Dr. D. B. St. John Roosa, of New York. Before the International Ophthalmological Congress, held in New York, September, 1876, he undertook to show that "ametropia (anomalous refraction) seems to be the condition of most eyes affected with blepharitis ciliaris;" that "hypermetropia is the error of refraction most frequently associated with blepharitis ciliaris;" and that "when blepharitis is

associated with errors of refraction, the cure of the edge of the lids is very much facilitated by, and sometimes depends upon, the correction of the ametropia." *

In support of these views Roosa presented a statistical report of 31 cases of blepharitis, of which 26, or $83\frac{9}{10}$ per cent., had refractive errors (13 hypermetropia, 5 myopia, 8 astigmatism) and only 5, or $16\frac{1}{10}$ per cent., had emmetropic eyes.

Dr. P. D. Keyser, of Philadelphia, confirmed Roosa's views by a report † of 31 cases, of which 25 had hypermetropic eyes, and 6 were astigmatic. But while Roosa is inclined to believe that ametropia only predisposes to the outbreak and favors the continuance or relapse of the lid trouble, Keyser goes a step further, and thinks that "accumulations of experience may show the fact of ametropia being in many, if not all cases, the direct cause of blepharitis." ‡

On the other hand, Dr. Ad. Alt, resident surgeon of the New York Ophthalmic and Aural Institute, says § :

"Since Dr. D. B. St. John Roosa, at the meeting of the international ophthalmological congress, held in New York in September, 1876, has advanced the idea that blepharitis ciliaris was, in about 83 per cent. of the cases, connected with ametropia, and holds ametropia a frequent cause of conjunctivitis and blepharitis, 48 patients have been especially examined with regard to that statement; 39 of them had emmetropia, 5 myopia, 3 hyperopia, 1 astigmatism — certainly no striking prevalence of ametropia."

My own observations during the past year extended over 18 cases, in private practice, of idiopathic || blepharitis, of which only 5 or 33 per cent. showed ametropia (4 hypermetropia, one myopia and one astigmatismus). The state of refraction was

* "The relations of Blepharitis ciliaris to Ametropia," in the report of the fifth International Ophthalmological Congress; also published in the *Amer. Journ. Med. Sciences*, January, 1877.

† "On some forms of inflammatory diseases of the eye being caused by defects of the refraction and accommodation," in the *Transactions of the Med. Soc. of the State of Pennsylvania*, 1877.

‡ *Phila. Med. Times*, 1877, p. 268.

§ "Clinical Report of 3,873 Eye-patients treated at the New York Ophthalmic and Aural Institute during the year 1876," in Archives of Ophthalm. and Otol., vol. vi., p. 180.

‖ *I. e.*, not complicated by (or the sequelæ of) other inflammatory affections of the eye.

carefully ascertained by means of the ophthalmoscope, without, however, the previous use of atropia, which Keyser employed in all, and Roosa in the majority of cases. Though the accommodation becomes pretty well relaxed in the dark room, and although I had frequent opportunity for testing the reliability of my ophthalmoscopic measurement afterwards, when the eyes had been atropinized, and found it confirmed by the other tests—I admit that the influence of the ciliary muscle is not as completely suspended in the dark room as by the paralysing action of atropia; and I concede that, had I employed the atropia, some of my cases might have shown a slight degree of hypermetropia, and consequently increased the percentage of ametropia.

I am quite willing to make this concession; for I hope I shall be able to prove that the mere statistical fact that ametropia prevails among blepharitic patients, cannot be accepted as conclusive evidence of any etiological connection between the two affections. I think I can show that such deductions are as fallacious as the argument of *post hoc ergo propter hoc*, which in therapeutics has so often led to deception and disappointment.

In the first place, the high percentage of ametropia Dr. Roosa has found among his blepharitic cases, is nothing very extraordinary, since the examination of thousands of *atropinized* eyes has shown that ametropia is the rule and emmetropia the exception in the refractive state. F. Erisman,* of St. Petersburg, examining the refraction of the atropinized eyes of 4,358 pupils, aged from 6 to 20 years, found 30.2 per cent. myopia, 43.3 per cent. hypermetropia, 26 per cent. emmetropia and 0.5 per cent. amblyopia. In other words, 73.5 per cent. ametropia, against only 26 per cent. emmetropia; a result which comes pretty near the statistics of Dr. Roosa.

Those who believe in the causal relation between ametropia and blepharitis, refer, in advocating their views, to the well-known fact that the continued use of the eyes for near work (as reading, writing, sewing) often occasions a hyperæmia of the conjunctiva and the edges of the lids. This hyperæmia — they continue to reason—becomes chronic, produces an alteration of

* Graefe's Archiv. f. Ophthalmol., xvii., 1, p. 8.

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the muscular force of the emmetropic eye, and produce the sensation of fatigue; while the nearsighted eye does not get tired, and on this account is often erroneously taken for a "strong" eye.

In view of these facts it is impossible to recognize in myopia a source from which through a continued strain of accommodation and consequent hyperæmia of the lids, the tarsal inflammation could derive its origin.

It is a different thing with hypermetropic eyes. Hypermetropia, if not corrected by convex glasses, is the source of a continual strain upon the eyes. The accommodation of farsighted eyes is never relaxed except during sleep, because they must make more or less effort at accommodation even when they look at distant objects, in order to overcome the refractive error, and to gain a well-defined, focalized impression upon the retina. This same effort to correct the anomalous refraction, must be made during reading or writing, in addition to the amount of accommodative action which is required to change the focus from distant to near vision. It is evident, therefore, that hypermetropes use their eyes for near work under very unfavorable conditions; the abnormal strain upon the accommodative function must sooner or later exhaust the power of the ciliary muscle; the eyes become tired, heated, red and painful; the vision is obscured, and the patient is obliged to interrupt his work. People generally call such eyes "weak," and oculists use the technical term "asthenopia," to designate in one word all these symptoms due to the overwork of accommodation.

As long as hypermetropic eyes are not employed much for near work, and if there is but a slight degree of hypermetropia, the person will not be troubled by asthenopia, because the strain upon the accommodation is not sufficient to produce it. The presence or absence of asthenopia, therefore, gives us a pretty sure indication as to whether or not there is any great strain upon the eyes. And where this strain is not sufficient to give rise to asthenopic trouble, it is certainly not great enough to affect such distant parts as the eyelids, so intensely as to produce blepharitis.

Roosa found hypermetropia 1-48 to 1-30 in nine cases, and

hypermetropia 1-24 to 1-8 in four cases; Keyser reported hypermetropia 1-48 to 1-30 in twenty cases, and hypermetropia 1-24 to 1-5 in 5 cases. This preponderance of the slight degrees of hypermetropia, which so seldom give occasion for asthenopic trouble, militates strongly against the idea that they should play an important rôle in the development of the lid trouble. If we actually admit that these slight degrees of hypermetropia can have so far-reaching an influence upon the lids, we shall find it very difficult to account for the fact that blepharitis is so seldom observed in the large number of hypermetropes who consult us on account of asthenopia, and whose eyes decidedly labor under a great, continued strain. I have always observed the rule to record any visible morbid condition of conjunctiva, lids, etc., in patients who consulted me on account of refractive anomalies. In examining such eyes I could not fail to detect even a slight degree of blepharitis. And yet, looking over my memoranda for the past years, I find only 4 cases of blepharitis among 267 cases of anomalous refraction. In all these cases the error of refraction was so marked that it impaired the function of the eyes, and in the most of the hypermetropic and astigmatic eyes produced more or less asthenopia; and nevertheless the nutrition of the edges of the eyelids was not disturbed except in four cases. While on the other hand, where the edges of the lids were inflamed, the anomaly of refraction was as a rule so insignificant that under ordinary circumstances it did not give any inconvenience to the patient, and it required artificial means to establish its presence.

As especially conclusive evidence of the causal relation between hypermetropia and blepharitis, Keyser referred to one case, with these words: "Also in the case of June 5, 1876, the hypermetropia was, without doubt, the cause of the blepharitis; as the lids of only one eye were affected, and this was the hypermetropic one, while the other was normal and no defect of refraction could be found." *

But this case is not so positive a proof of any direct connection between the two affections as it seems at first sight. In fact, it

* Transactions of Medical Society of State of Pennsylvania, 1877, p. 536.

becomes a very doubtful argument as soon as we know that blepharitis may be limited to one eye also under altogether different circumstances, as the following case may illustrate:

On October 3, 1876, I was consulted by the parents of Felix M ——, aged 9 years, because they believed him to have become near-sighted. They remarked that when reading he would bring the book very close to the eye, and could read but a short time. Each eye showed V = $\frac{20}{20}$ which was deteriorated by even the weakest convex glasses. But he could read large print (Jaeger 7) only, and had to hold the book as near as six inches to the eye. The ophthalmoscope detected H. 1-16; otherwise the fundus was normal. He was given convex 24 and after having these glasses on 10 minutes, he could read smaller print (Jaeger 3) and at a greater distance than he could without glasses. The right upper lid was covered with crusts produced by extensive ulcerative blepharitis, while the other lids did not show any defect.

In this case the blepharitis was confined to one lid, but, unfortunately for Keyser's theory, both eyes showed the same degree of H. and the same amount of accommodative strain.

There is another fact which does not well agree with the view that the strain caused by ametropia is the principal cause of blepharitis. I refer to the fact that this disease is most frequently met with in children; and if it is observed in older persons, they can generally date the first outbreak back to childhood. As a rule we can say the disease is developed at a time of life when the acts of vision do not demand any continued efforts of the eyes. My experience is that the greatest number of blepharitic patients is observed among children under five years of age. And I was surprised by finding that neither Roosa's nor Keyser's list contains a single patient under five years and that both tables include very few patients between five and ten years. Can they really not have observed any such cases, or did they omit them because the tests of vision cannot be employed in so young children? As my experience is greatly at variance with their statements, I will give here a statistical résumé from my private and hospital records.

In private practice I observed during the four years, 1874 to

1878, 73 cases of blepharitis ciliaris. According to the age they can be classified as follows:

Under 5 years	27 cases,	or 37 per cent.
Between 5 and 15 years	22 "	" 30 "
Between 15 and 20 years	14 "	" 19 "
Over 20 years	10 "	" 14 "

The record book of the Illinois Charitable Eye and Ear Infirmary gives this information:

Total number of cases of blepharitis during 1876	34.
Under 5 years	16 or 47 per cent
Between 5 and 15 years	11 or 32.3 "
Between 15 and 20	2 or 6.0 "
Over 20	5 or 14.7 "
Total number of cases of blepharitis during 1877	55.
Under 5 years	19 or 34.5 per cent.
Between 5 and 15 years	21 or 38.2 "
Between 15 and 20 years	9 or 16.3 "
Over 20 years	6 or 11.0 "

The hospital and private records agree in proving the prevalence of blepharitis among children, and a careful inquiry into all the circumstances associated with the beginning of the disease would, in most cases, discover other and more potent causes than ametropia.

In a few instances it has been mentioned that the edges of the lids which had been treated unsuccessfully for years, got well without much treatment as soon as the refractive error was corrected by suitable glasses. These observations fully coincide with the experience so often gained in cases of conjunctivitis, that they prove to be rather obstinate to the usual topical treatment, but are speedily cured as soon as any anomaly of refraction has been corrected. In either case the rapid improvement in the condition of the lids must be attributed to the correction of the ametropia; there is no doubt of that. But this improvement takes place, not because by correcting the refraction we remove the original cause of the disease, but because we abolish thereby a condition which is apt to aggravate and prolongate an existing inflammation of the conjunctiva or lids. Just as the least amount of smoke in the air, which does not make any

palpable impression upon a healthy conjunctiva, markedly irritates an already inflamed conjunctiva, so does the abnormal effort hypermetropic and astigmatic eyes have to exert in near vision, more strongly affect the eyes of the lids in the inflamed than in the healthy state. While any congestion produced in healthy eyelids will pass off without consequences, it will increase the inflammation and retard the recovery of inflamed lids. And this, I think, is the real relation of ametropia to blepharitis ciliaris; the affection of the lids may sometimes be rendered very obstinate through the adverse influence of hypermetropia or astigmatismus. We must look upon ametropia as a complication of blepharitis; and whenever the affection of the lids, especially in adults, does not readily yield to a proper treatment, we may find a certain degree of ametropia to be the cause of the obstinacy of the disease. If this is the case we should of course remove this, like any other complication, in order to put the lids in the most favorable condition for recovery.

A NEW APPARATUS FOR POTT'S DISEASE OF THE CERVICAL VERTEBRÆ.

By Wallace Blanchard, M. D., Chicago.

The inadequacy, inconvenience and unsightliness of the instruments constructed for Pott's disease of the cervical vertebræ, have led me to devise an apparatus that for efficiency has far exceeded my expectations.

In this disease the carious body of the bone gives way, and the transverse spinous processes, from their posterior position, tip the head forward, till, as the disease advances, the chin may rest upon the chest. Any force that carries the head backward causes the transverse processes, which are seldom diseased, to serve as the fulcra for removing the pressure from the diseased body of the vertebræ; the density of their structure rendering them equal to the support of any reasonable weight.

While Dr. Sayre teaches this principle, he neglects its applica-

tion in his apparatus for cervical Pott's disease, which he calls the "jury-mast;" the only act accomplished by it being the lifting directly upward of the head. It is uncleanly and disagreeable to wear, consisting as it does of "four or five layers" of plaster of Paris and crinoline, and a "mast," with a swing for the head, which attracts attention nearly as far as its wearer can be seen; matters of no small moment when peace of mind and out-door exercise are often considered a part of the treatment.

The apparatus which I shall describe obviates the disadvantages named, if the rules which I shall give for its make and application are observed.* Take a plaster-of-Paris mold of the back, and from that a plaster cast, quite thick and strong. Soak a piece of "skirting" (a form of saddler's leather dressed with oil and very stiff) in water for a day, and then bind it firmly and closely to the cast, using thirty to forty feet of small sized rope for the purpose.

When dry, this leather must of course present an exact contour of the back. Have steel strips riveted to this leather splint in such a way as will support it best, line the inner surface with chamois skin, and to each side sew an apron of light, pliable leather in such a manner that it may be laced over the abdomen.

Support a pad for the occiput on an arch formed by the joining of two steel strips that pass down over the back splint, and are there secured in such a manner as to be raised or lowered to any desired position, and there held by set-screws. Upward and backward from the occipital pad for three or four inches, extend a single strip of steel supporting two buckles, supplied with a band to pass around the head. Place the splint in its position on the back, with a light linen or cotton shirt next to the body, and lace the apron over the abdomen as tightly as can be borne with comfort by the patient. Add straps over each shoulder, only tight enough to steady the splint, and be sure that the splint extends high enough over the shoulders so that there shall be no

* I have been somewhat explicit in this article for the reason that it is too much the habit of certain gentlemen in large cities (not particularly in Chicago) to publish a treatment or describe an apparatus full enough to show its usefulness, and to just stop short of those details that would enable the average reader to make any practical use of the information given. The result is obvious. The doctors "in the provinces" send in their cases. I fail to see the practical difference between this and taking out a patent in the (ir)regular way.

downward pressure. The accuracy with which it fits every inequality of the back makes it quite immovable.

The occipital pad should now be in such a position that considerable force shall be required in lifting and carrying backward the head so as to place the occiput on the pad with the chin somewhat elevated; then buckle the strap over the forehead and the apparatus is applied as represented in the cut.

Fig. 1, occipital pad, serving as a fulcrum on which to raise the head. Fig. 2, slots and set-screws by means of which the occipital pad is set at the required position. Fig. 3, apron, laced in front.

The head is now firmly supported, and in such a manner that if there should be any excess of weight not carried by the instru ment, it is taken *entirely by the transverse processes.*

I first applied this apparatus to a girl of five years, from the southern part of the State. On my first visit I found her sitting on the bed, supporting her head with her hands, and was told that this had been for several weeks her almost constant position. There was considerable projection of the spine of the fourth cervical vertebra; she was pale and emaciated; exhibited nervous symptoms, and complained constantly of pain in the neck and throughout the thorax. On the application of the apparatus she was almost immediately relieved from pain. A mild nutritive tonic treatment was added, and she progressed so rapidly that at the end of a month I felt safe in letting her return home. A little over a year after, word was conveyed to me that the family physician considered her cured, and had discontinued the use of the instrument.

My second case, a boy of seven years, from Iowa, with symptoms and deformity not so marked, under the use of the apparatus, improved, and recovered in quite the same manner as the first.

The third, a boy of ten years, from Minnesota, was a case confided to the care of Dr. E. Bert, of this city, who called me in consultation with the intention of giving my apparatus a trial. The boy had a slight projection of the spines of the last cervical and first dorsal vertebræ, with considerable pain and nervous asthenia. A month after the apparatus was applied, he had so far improved that we considered it safe to let him return home. With his coat and cap on, this boy passed along the street without attracting the least attention to the fact that he was wearing a mechanical appliance.

In rotary-lateral curvatures, and advanced Pott's disease, below the level of the axillæ, Dr. Bryan's plaster-jacket applied during suspension, according to the method of Dr. Sayre, is undoubtedly the most efficient treatment yet devised. But in Pott's disease, in the lower half of the column, when the curvature is direct and not very marked, I prefer, after extension, to apply a steel supported leather back splint, as described, for the base of the apparatus for cervical Pott's disease, cutting a fenestrum of size

sufficient to obviate pressure at the point of disease, and padding the shoulder straps which are to be buckled tightly over the shoulders. The patient can in this way be held in a nearly or quite perfect position, with immobility secured, and all the weight transferred from the bodies of the diseased vertebræ to their transverse processes.

I have found this treatment very successful in appropriate cases. The back splint used in this manner, originated, I believe, with the late Dr. J. S. Sherman, of this city, though Dr. Adams, of London, described a somewhat similar support at about the same time that this was introduced. The idea of wearing the immovable plaster-jacket for from two to four months at a time, as advocated by Dr. Sayre, is naturally repugnant to persons of ordinary cleanliness, and is to be avoided when any substitute that is just as effectual can be found.

Dr. Edmund Andrews tells me that his chief concern while using the jury-mast apparatus on young patients, has been their liability to slip the straps that pass under the jaw, so as to produce strangulation.

Mr. Chas. Degenhardt, surgical instrument maker, has done the steel work on my Pott's disease apparatus in a very creditable manner, but in a country town any skilled mechanic could do the work properly, if not so neatly, under the supervision of a surgeon having in view the results to be obtained.

More general attention should certainly be directed to this form of disease, considering its frequency, the large percentage of mortality, and the unsightly deformations so often left to the survivors.

TRACHEOTOMY.

By F. H. Blackman, M. D., of Geneva.

(*A Paper read before the Fox River Valley Medical Association, July* 2, 1877.)

Case 1.—C. P., aged four years, health always good. I saw him first on the evening of Jan. 29, 1877. His mother said he had not been well for two days, but had not thought him much sick. She said he was sick as his two little sisters had been, who were at this time convalescing. An examination of the fauces showed a small diphtheritic patch on one tonsil; externally on the same side the glands were slightly swollen and tender. I directed camphorated oil externally, and internally a saturated solution of chlorate of potass, alternated with quinine; and strong lemon juice applied to the fauces with a soft cotton-wool probang. I was to be notified if the boy was not better in the morning.

I heard nothing further of the case until Jan. 31, 11 p. m. Mr. P. came for me, saying he was afraid Charley had the croup. He was very much alarmed, as he had had two sons die from membranous croup, ten or twelve years before, and this was his only living son. I learned that the boy had been very much better since my former visit, and had only begun to develop symptoms of croup within the last three hours. He had been out to the barn several times during the day, which had been cold and rainy. I found him with considerable fever, fauces very red, no membrane except some slight strips far down in the pharyngeal space. He was very hoarse, and had considerable difficulty in breathing, and looked anxious and distressed. I gave an emetic of ipecac, which produced copious emesis; continued the chlorate of potass solution with compound syrup of squill added, and the quinine; the throat and upper part of the chest was covered with tobacco ointment and an onion poultice.

Feb. 1, 8 a. m.—The patient seemed much the same as on the night before. I applied a solution of nitrate of silver about the epiglottis, and commenced the use of lime water inhalations with the steam atomizer. 3 p. m.—Patient can only speak in a whisper,

pulse 120, sweating, looks very tired, takes milk freely, some nausea. 11 p. m.—Voice extinct, breathing very labored. I catheterized the larynx and gave an emetic of the sulphate of copper, with some relief. I told the father that in my opinion tracheotomy was the only hope.

Feb. 2, 7 a. m.—Child still alive, but does not respond to the sulphate of copper, as formerly. 9 a. m.—Apparently dying. After a hurried preparation, with the assistance of the father, a one-armed man, I opened the trachea and introduced a tube extemporized from the silver catheter at hand. The operation was attended with very little hemorrhage. In about half an hour he could breathe without being prompted, and had taken a little milk and whisky, and in response to the question if he felt better, nodded affirmatively. The temperature of the room was maintained as near 80° as possible, and the air moistened with steam from the atomizer.

During the afternoon a double rubber canula was procured; just before which an accident happened which almost proved fatal, and had much to do with the result of the case. The tube becoming obstructed, and not succeeding immediately in removing the obstruction, the little fellow caught the tube and tore it out, causing considerable hemorrhage from the deep plexus of veins, he became asphyxiated from blood drawn into the trachea, and some little time elapsed before the bleeding could be stopped and respiration established.

Feb. 3, 8 a. m.—Had passed a good night; pulse 112; had taken milk frequently and with relish. The wound was dressed with weak carbolized oil, and the neck enveloped in flannel. The wound had the appearance of being covered with a thin film of false membrane, and the neck was a good deal swollen.

Feb. 3, 3 p.m.—Was summoned on account of difficult breathing, which cleansing the inside tube did not relieve; removed the entire canula and with a pair of forceps extracted a plug of fibrine, which was moving up and down in the trachea, and acting like a valve. There was a good deal of false membrane in the wound and extending down the trachea. The swelling of the neck had increased very much since morning. Auscultation discovered mucous râles. The breathing was relieved for a time, then went

on increasing in difficulty, until about 8 p. m., when he suddenly died.

Case 2.—Elsie B., aged 4 years; previous health had been good, except occasional convulsions following whooping cough in her second year. I visited her first Jan. 28, 1877, for mild diphtheria.

Jan. 29.—Called and found Elsie improving; I did not see her again until Feb. 5, when I was called to see Fannie, another daughter, who was suffering from a malignant form of diphtheria, and who, by the way, had been taking sulpho-carbolate of soda since my former visit. Elsie was at this time running around the house apparently well, except an occasional very croupy cough. An examination revealed slight fever and a very reddened state of the fauces. The mother said she had been troubled with difficult breathing the two preceding nights, and she had herself administered ipecac. I prescribed bromide of potass and compound syrup of squill in a mixture, and recommended isolation from her sick sister.

Feb. 6, 9 a. m.—Patient evidently worse than on the previous day. The mother had been obliged to administer ipecac, which was followed by some relief and sleep.

Feb. 7, 9 a. m.—Patient had a very bad night; had been obliged to give much more ipecac to produce emesis than before; pulse 120; very great difficulty in breathing; voice almost extinct; still some appetite.

Feb. 7, 3 p. m.—Was summoned hurriedly by a servant, who said Elsie was dying. Found her struggling for breath, voice entirely extinct, lips and extremities blue. I gave an emetic of cupri sulphas, with full draughts of warm water, which produced copious emesis, followed by a hot foot-bath, hot compresses to the throat and chest, and the inhalation of lime-water vaporized by the steam atomizer, which relieved the more urgent symptoms. I proposed the operation of tracheotomy, and asked for assistance. 9 p. m.—Met Dr. C. N. Cooper, of Batavia, in council. The patient had had but one severe paroxism of dyspnœa since three o'clock. We remained with the patient until 1 a. m. Dr. Cooper went home to return again in the morning. I remained with the patient during the rest of the night.

Feb 8, 9 a. m.—Dr. Cooper having returned and death being imminent, I, with his and Dr. W. W. Ormsbee's assistance, the patient being etherized, opened the trachea below the isthmus of the thyroid gland. The loss of blood was trifling. The wound was thoroughly cauterized with solid stick nitrate of silver, and its angles brought together with strips of adhesive plaster. The neck was encircled with a strip of oiled silk, through a slit in which the tube was inserted into the trachea and held in place by tapes passing around the neck. A piece of old merino underwear, folded several thicknesses, was placed about the neck, a slit being cut for the inner tube. A small slit was cut in a second piece of oiled silk, and it was slipped over the inner tube to protect the merino from the sputa. A piece of wash blond lace was folded several times and laid over the open end of the tube, the air passing in and out through it, warming it, retaining, perhaps, some of the moisture of the exhaled air, and making it more natural. The expectoration was tinged with blood for an hour after the operation, when it became natural. The breathing was irregular for about the same length of time, probably from the combined influence of the dyspnœa and anæsthetic, after which the relief experienced from the operation was complete, respiration being 22, and the pulse 120 per minute. The air of the room was moistened by a large flat sponge filled with water and placed over the register of the furnace. The temperature was maintained at 76° or 78°.

Feb. 9th.—Removed the dressings and the entire tube. Cleansed the wound with a bit of sponge and warm water, and after drying, cauterized and redressed as before. On looking into the throat discovered diphtheritic patches on each tonsil; the nurse also called my attention to the vulva and anus where diphtheritic membrane existed. I cauterized them with nitrate of silver. The internal treatment was chlorate potass, and quinine with plenty of nourishing food. Complains of pain in her stomach probably due to the emetics.

Everything went on very favorably during the remainder of the treatment, the wound being dressed as above each day. I removed the tube the seventh day after the operation, fearing necrosis of the trachea, blood having appeared in the sputa, and

although she could not breathe the natural way, the opening in the trachea remained open and breathing went on very well; on the second day after she began to expectorate and cough up the membrane, and fourteen days after the operation she could breathe very well but could not cry aloud. This continued about six weeks at the end of which time her recovery was complete.

My limited experience would hardly justify me in holding or in advocating very rigid opinions regarding this operation; still I have opinions somewhat as follows: Do not postpone the operation until the last stage, as I did in the foregoing cases, but operate early, as soon as the voice becomes a whisper and there is marked interference with oxygenation, especially if the child is under eight years of age.

I do no think the operation of itself is a source of much danger if certain precautions are observed. The too free use of emetics previous to this operation comes in for its full share in causing a fatal termination.

Operate under an anæsthetic if possible, and slowly, opening the trachea below the thyroid isthmus. Be sure and cauterize the wound with solid nitrate of silver at least once in croup, and in diphtheritic cases every day as long as the diphtheritic process is going on in the system. The wound should never be closed by stitches, approximation of its upper and lower angles by adhesive plaster is much preferable. Do not cauterize the inside of the trachea. Encircle the neck with either oiled silk or a rubber band with a slit in it for the tube; it is a protection to the wound and neck and prevents chafing. Old soft flannel about the neck is essential, but do not cover the end of the tube with it. Blond lace, washed to free it from starch, and folded several thicknesses is the best covering to respire through: several pieces can be prepared, dipped in some disinfectant and dried ready for use.

I prefer a hard rubber double canula having a uniform calibre, and of a size to fit the trachea, not too tightly or too loosely, as an ill fitting tube will cause necrosis of the trachea. Avoid drafts and maintain an uniform temperature. Dryness of the tube and air passages is best relieved by a few drops of tepid water. In order to be thoroughly prepared for this operation, the practitioner should have about five canulas sized as follows: one

a little under one-fourth inch in diameter for a child under three years; one one-fourth inch for a child between three and five years; one one-third inch for a child between five and eight; one two-fifths inch for those between eight and twelve, and one one-half inch for those between twelve and fifteen.

The smallest tube should be two and one-fourth inches in length and its curve should be one-fourth of a circle; the length should be increased one-fourth inch for each succeeding size named above. All should have the same curve.

I am satisfied that if tracheotomy was performed more frequently in this country, it would enjoy the popularity which it does in many parts of Europe.

THE USE OF COLD AND HEAT IN FEVERS.

By Frank Allport, M. D., Sycamore, Ill.

In the treatment of the febrile state there are two methods of procedure, one of which is endorsed by a large portion of the profession both in this country and Europe, the other is struggling for a position, and already numbers among its advocates some of the best names known to medicine. They are apparently so diametrically opposite in their action as to excite the inquiry why they can both be used in dealing with the same affections. I have reference to the external application of cold and of heat. So pertinent indeed is the query that it is well worth while to stop and consider if the results of their employment may not be similar, although the means used are so different.

Internal heat is one of the most important of all the factors concerned in fevers of every description, and is invariably present. The extent to which it is found in each individual case militates largely for or against the recovery of the patient. It is therefore of great moment that some means be found by which we may nearly or quite free the system of this exalted internal temperature; bearing in mind always that *heat* is not the disease,

but the result of the retention within the body of the products of excretion.

Probably more than to medicine the profession looks to either one of these remedies (cold or heat) to bring about this end. Let us then briefly analyze the action of each, after which we may, by a comparison of their merits and demerits, arrive at a conclusion as to which we may look upon with the greatest reliance for the accomplishment of the object in view. First, then, as to cold. The first effect produced is a shock, which for the time being paralyzes the nerves controlling the vascular system, throws the blood to the viscera, closes the pores of the skin and exalts the internal temperature. In a short time a reaction generally sets in. The blood flows to the surface and relieves visceral congestion, the pores of the skin are opened, a gentle perspiration suffuses the body, and the temperature is reduced a certain number of degrees. Very soon a counteraction commences, the blood recedes from the surface and the original, or even more than the original, degree of internal heat is present.

Under the application of heat the action on the system is about as follows: In the first place, the blood gradually leaves the viscera and seeks the surface. The pores are opened and a perspiration breaks forth, which soon becomes profuse, and, as the system is emptied of the accumulated poisons, the temperature is reduced a certain number of degrees. After the heat is reduced and the perspiration limited, the temperature of the body again runs up to or within one or two degrees of the original, sometimes equalling it; but under proper management, in a fairly commenced case of fever, where the disease terminated favorably, I have never seen it exceed it. These may be said to be the respective actions of the two remedies.

It will be observed, that whereas with cold, shock and exaltation of temperature, are the effects produced; with heat there is no shock, no exaltation of temperature, and the good results at once become manifest. I have said in reference to cold, "a reaction *generally* sets in." I have heard and read of cases where patients never recovered; death occurring from the shock. The reaction then, does not always occur, in which case death is the result. It is reaction therefore, which does

the good, indeed which saves the patient's life from the first effects of the remedy, viz., closure of the cutaneous pores, shock, and increased visceral congestion. If I may use a non-medical illustration, the application of cold, is like the experiment of Mr. Squeers, who almost knocks poor Smike off the trunk with one hand, and saves him from falling with the other. It is not then to the immediate effect of cold to which the benefit may be ascribed, but to the powerful recoil of the system, from the shock produced by the application of cold.

To bear me out in these assertions, I will quote the words of the editor of the *British Medical Journal*,* while speaking of the external application of cold in fevers: "The only contra-indications to this treatment, are, first of all, hemorrhage from the bowels in typhoid fever, even if it be present in the slightest degree, perforation also precludes its continuance." These sentiments are from the pen of an advocate of this mode of procedure, and they would seem to show, that notwithstanding a reaction may take place, it is erroneous practice to plunge the patient into a cold affusion, thus still further congesting the already highly inflamed viscera. In the treatment of the febriculæ, we must bear one idea constantly in mind, viz., at present we have no specifics for this state, and we must treat the symptoms. The patient should be placed in the best possible general condition to recover. If any organ or organs, are found to be acting improperly, the error should be corrected. Perhaps more important than all, we must see to it, that the secretory and eliminative organs are acting with a normal, and even more than a normal degree of activity. Therefore, when we see, as we do, almost if not quite invariably, in the febrile state, that while more urea, carbonic acid, and other eliminative materials are produced, yet the quantity of these substances cast off, is *less* than in health, we must aim, by every possible means, to correct the error.

No one can doubt the usefulness of the skin as an excretory organ, in this predicament, and to it we should direct our attention first. I say "first" because the kidneys, bladder, etc., are in such a congested and diseased condition, that they are largely

* Feb. 3, 1872, page 131.

incapacitated for work, and only by a vicarious elimination can they be relieved of this state, and rendered equal to the task assigned them.

Dr. Davis* says that the only two cases of complete suppression of urine, which have ever occurred in his own practice, following scarlet fever, were benefited only by those remedies, which promoted the elimination of the retained elements through the *skin*, kidneys, and bowels. In these severer cases, specifics were set aside, and only such means adopted as were directed to placing the system in the nearest to a normal condition possible, viz., by looking to the excretions. If such treatment is correct in the severer cases, why is it not just as reliable in milder ones? And yet how often do practioners tamper in the beginning of fevers with so-called "specifics," etc., who are compelled, when the disease becomes of an alarming type, to resort to remedies controlling elimination.

Considering the foregoing facts, we are led to conclude, that profuse and steady perspiration, is a most desirable and important end to be attained.

It would appear that fever is simply a state of innervation produced by the septic influences of a (possible) "fever-poison," and kept alive by the non-elimination of natural and abnormal elements of excretion that should be cast off. The delirium and coma of scarlet fever are, then, simply symptoms produced by this innervated state, and the retention and circulation in the tissues of the brain of the manufactured, but not excreted poisons.

A comparison of the reduction of temperature, produced respectively by the application of external cold or heat, shows that the former is the most decided in its action. Dr. Beal† cites cases from the practice of Dr. Wilson Fox, where the temperature was reduced by a single immersion, eleven degrees. The reduction by heat has never, so far as I can learn, equalled this by several degrees. This might at first be deemed an argument in favor of cold. On the contrary, it is one against it, for there can be no doubt that such rapid and eccentric changes are generally

* "Clinical Lectures," page 80.

† *Medical Times and Gazette*, December 16 and 30, 1871, pp 731 and 789.

of positive injury. We must bear in mind that, after this excessive reduction of temperature, a counteraction takes place, and the thermometer will in a very short time register a rise of as many, and generally more than as many, degrees as were previously lost. Such decided and sudden changes cannot be of benefit. What we want is a gradual but sure declination of temperature, such as we obtain from the proper application of external heat. The temperature in this mode of treatment, under proper circumstances, and if the "sweat" is given often enough, rarely returns to its former height, but will register a sure loss, although it is not so rapid as in the treatment by cold. In this particular I would say that Dr. T. Clifford Albutt, A. M.,* an advocate of the "cold bath treatment," states that a too rapid diminution of temperature is positively injurious in fevers. With this idea in mind, he endeavors, while still clinging to the "cold bath," to somewhat modify the application of it, in order that so rapid a diminution may not be produced. Another reason why the "cold bath" should not be used, is that the patient requires too much careful watching, such as it is almost impossible for a physician in full practice to give. Again, Dr. Albutt says: "I would urge the continual presence of a medical man. The whole treatment must be managed with the utmost precision, and all tendencies to shiver or syncope, should be watched by a skillful observer, or irreparable damage may be done in five minutes." Now it is evident that only in a hospital can a physician be constantly with his patient (and even there it would be difficult), to act *immediately* upon the approach of certain symtoms, and a physician would hardly feel justified in placing such a powerful and easily fatal remedy in the hands of the laity. Is it then proper to continue the use of this remedy, so potent for evil, while we have, in heat, an agent capable of doing more good, with no practical risks, provided the patient receives reasonable care from a competent nurse, in the absence of the physician?

A comparison of the merits and demerits of the external application of heat or cold, in the treatment of fevers, may assist

* *Lancet*, December 23, 1871, p. 881.

in reaching a conclusion as to which is to be preferred, and for this purpose I have adjoined the following table:

Heat.	*Cold.*
No shock is experienced upon applying the remedy.	A shock is experienced.
Perspiration soon follows the application of heat.	Perspiration does not take place for some time after cold has been applied, *and is dependent upon a reaction*, which may or may not take place. In the latter event, a fatal result is apt to occur.
A gradual declination of temperature is observed.	A sudden and great declination of temperature is observed.
The temperature is not apt to rise above that registered at the commencement of the application, after the same.	The reverse is the rule.
Profuse perspiration is produced, and it does not require to keep the temperature down, as many applications per diem as with the application of cold.	Only a gentle perspiration is produced.
Only a reasonable amount of care and watching is required.	Directly the reverse is true.

SEVERAL persons in Berlin, Germany, fell seriously ill after partaking of American dried beef which is sold there in tin cans. A chemical examintion of the meat showed that the layer next to the lid of the can was strongly saturated with the salts of lead. The soft solder by which the cover was fastened was put on the inside so thickly that it came in contact with the meat and impregnated it with lead.

Clinical Reports.

ALEXIAN BROTHERS' HOSPITAL.

A Remarkable Case of Cancer of the Stomach—A Modification of the Stomach Pump.

Julius Raff, aged 29 years, has always enjoyed good health. Two years ago he left the service in the U. S. army, after a six years' term. Afterward, and up to about two months ago, he held the position of clerk in a country town in Wisconsin. In the beginning of last November he felt sick, complaining of a pressure in the stomach after eating, and vomiting. These symptoms grew worse rapidly, and within two months the strength of the patient was about exhausted, he being reduceed to a mere skeleton. In February, 1878, his friends brought him to Chicago, to the Alexian Brothers' Hospital, under the care of Dr. Mannheimer, with whom I saw the patient the first time, February 11th. From my note book I take the following statement of my first examination: Notwithstanding his great emaciation the patient shows a fair complexion. His mind is clear; he speaks cheerfully about his disease; night-rest undisturbed; there is no fever; pulse 64, and the temperature and moisture of the skin normal. The stomach bears no food; whatever is swallowed is rejected, sometimes soon, but ordinarily from 4 to 6 or 8 hours after eating. The masses which are thrown up consist of half-digested food and decomposed chyle, which are mingled with more or less viscid mucus. The patient has no appetite; he complains of a bad taste and a burning and choking sensation in the throat. The bowels are constipated; fæces dry, hard and gray; the absence of bile in the fæces is the more remarkable, inasmuch as there is no bilious discoloration of the skin or sclerot-

ica. No blood is found in the fæces. The abdomen appears empty and relaxed. In the middle between the xiphoid process of the sternum and the umbilicus, a hard tumor is detected. It has a horizontal direction measuring about two inches, and is about one inch thick. The tumor cannot always be felt, but, at intervals, it comes to the surface, and can then be seen as a distinct prominence at the place described. As soon as the tumor begins moving, the patient suffers great pain, which lasts from one to five minutes. Deep pressure in the epigastric region is always very painful. Lungs and heart and kidneys are in a healthy condition, while the liver is shown, by percussion, smaller than normal. The stomach is undoubtedly greatly dilated, as may be inferred from the extent of the tympanitic resonance, in the left epigastric and hypochondriac regions.

The diagnosis in this case offered some difficulties. Although the presence of the tumor, which evidently belonged to the stomach, suggested that cancer might be the cause of the disorder, yet there were some facts at variance with this supposition, viz.:

1. The age of the patient (29 years).

2. The short space of time—i. e. three months—since the first symptoms suddenly inaugurated the rapid decline of the patient.

3. The absence of any hereditary disposition, as far as this could be ascertained.

4. The relatively fair complexion of the patient. There was no indication of that characteristic cancerous cachexia which, although difficult to describe, is easily recognized by every practitioner.

In the second place we thought of ulcer of the stomach. The age and the absence of symptoms of cachexia would speak in favor of this supposition. On the other hand, the absence of blood in both the fæces and the ejections, would not contradict this diagnosis, since many cases are reported where men have died of gastric disorders, even without showing symptoms of a diseased stomach, and the post mortem revealed perforation by an ulcer as the cause of death.

The symptoms which distressed the patient most—vomiting, eructations, bad taste in the mouth and burning in the throat, occasionally severe pain—were all direct consequences of the gas-

tric catarrh. Therefore sodæ bicarb., magnes. carbon., Karlsbad salt, were prescribed, however with but little or no effect. Antiseptic solutions, as carbolic acid, salicylic acid, salicylate of soda, failed entirely. Morphia alone gave temporary relief from pain. We then resorted to the stomach pump. We introduced the tube for the first time, February 15th. A great quantity of decomposed chyle was removed and the stomach washed with tepid water, afterward with a solution of Karlsbad salt. This operation had a decided effect for the next two days; the patient did not vomit, the burning sensation in the throat entirely ceased, the appetite and digestion were tolerably good, and the paroxysms of pain seemed less frequent. However, on the fourth day vomiting recurred; we again applied the stomach pump and an enormous quantity of decomposed food and mucus was removed. The operation lasted about twenty minutes. Again the effect of washing the stomach was beneficial. The next two or three days the patient felt greatly relieved; he ate and slept well, so that his death, occurring in the afternoon of February 28th, took us rather by surprise.

Unfortunately I was not present at the post mortem, which on the next day was made by Dr. Ernst Schmidt and Dr. Mannheimer. They gave me the following notes: "Beside the extreme emaciation of all organs, there was nowhere any morbid change, except in the stomach. The pyloric portion was transformed into a hard, tense, somewhat nodular tumor; its length measured about 3 inches, while its thickness was from 1½ to 2 inches. It occupied the whole circumference of the pylorus, the opening of which was so narrow as to allow only the passage of a grooved director. The duodenum was relaxed and empty, as was also the remainder of the intestines. The stomach was greatly dilated and distended with gas. It filled the entire left hypochondriac region, the diaphragm being considerably displaced upward. Its contents consisted of gas and a large quantity of decomposed fluid. The liver was smooth, the secretion of bile seemed unimpaired. The tumor was not connected with the adjoining organs; its surface was smooth. Some retroperitoneal glands were enlarged. The tumor, upon dissection, possessed all appearances of a genuine cancer.

The condition of the stomach, as revealed by the autopsy, throws light upon those dark points in the diagnosis, which I have mentioned previously. The extreme stricture of the pyloric portion fully explains what puzzled us so much in the diagnosis of cancer, namely, the short duration of the disorder and the absence of general cachexia. It seems that from the outset the tumor increased in size as an *uniform thickening of the wall of the pylorus*, resulting in constricting its opening. The mere mechanical consequences of the extreme stricture became fatal before cancerous infection of the system took place. *The patient died simply of inanition in consequence of an extreme stricture of the pylorus.*

The apparatus we used for washing out the stomach, was a very simple substitute for the original stomach pump. It consisted of the ordinary stomach tube, to which the one end of a rubber tube, some 5 to 6 feet in length, was attached, while the other end was connected with a funnel or a fountain syringe. Before the tube was passed into the stomach, the vessel was filled with water, and the air expelled from the tube by raising the vessel to fill the tube with water. As soon as the sound was in the stomach, the water was allowed to flow. The higher the vessel was raised, the quicker it emptied itself, and was refilled before the level of the water sank down to the opening, near the bottom of the fountain syringe, in order to avoid aspiration of air. When we thought we had introduced enough water into the stomach, the vessel was put upon the floor, when the water, mixed with the contents of the stomach, would run out. Thus, by alternately refilling and emptying the cavity of the stomach this organ may be thoroughly washed out, till all its contents are removed and the cleansing water returns clear.

The liquid to be used may be tepid water so long as there are contents of the stomach to be removed, after which any medicated mixture the physician deems most appropriate for the mucous membrane, may be substituted. In our case we used for that purpose Karlsbad-water, prepared with the natural Karlsbad-salt, which can be obtained of all druggists. During the operation the patient may remain in bed, in a sitting position, or sit up in a chair. Since the ordinary stomach-pump is a rather expensive

and complicated instrument, and therefore not within the reach of every practitioner, it seems to me that the simple and cheap apparatus we used might induce physicians oftener to resort to the procedure of washing out the stomach.

HENRY BANGA, M.D.

CHICAGO, March, 1878.

NOTES FROM PRIVATE PRACTICE.

Chronic Anæmia, Associated with Pregnancy.

Mrs. B——, aged 26 years, married, and of healthy parentage, came to my office for treatment July 7th, 1877. She was then in the eighth month of pregnancy, was very anæmic, and complained of great debility, irregular action of the heart, pain in the back, epigastrium and right side, loss of appetite, etc. She stated that she had been confined two years ago and had then had a severe attack of child-bed fever, never having been well since. She was somewhat emaciated, and presented a cachectic appearance. The integument of the face, hands, and a part of the body, were of a bronzed hue. The tongue, gums, lips, and mucous membrane of the mouth were bloodless; the tongue large and flabby, and its mucous membrane displayed five or six ashy looking ulcers. Pulse, 120, weak and irregular. Respirations 20 to 25, and greatly embarrassed. The action of the heart was tumultuous, and upon auscultation at the base of the heart, a loud systolic bruit could be heard over the aortic and pulmonary valves.

The urine was of an amber color, and acid reaction; deposits when cool a sediment composed of urates, phosphates, and uric acid; specific gravity 1.010, no albumen or sugar.

Diagnosis: Chronic Progressive Anæmia.—She was ordered iron, quinine, strychnia and phosphorus, with a highly nutritious diet.

July 11th.—Some improvement; appetite better, and is not quite so weak; continued same treatment.

July 13th.—Was called to see her, and found her suffering from an attack of remittent fever, attended with continuous nausea

and vomiting, and neuralgic pains in almost every part of the body; great dyspnœa, throbbing of the carotids, and the impulse of the heart could be felt over very nearly the whole of the anterior portion of the chest. The pulse was so frequent and irregular that its rate could not be definitely noted, but ranged from 120 to 150, and was very feeble; temperature 99½° F.; inability to assume the upright position without danger of fainting. I prescribed digitalis, belladonna, morphia, and potassic bromide, and moved the bowels with a mild laxative, giving quinine every two hours. To relieve the nausea and vomiting, mustard was applied over the stomach; she also had bismuth, lime-water, and sweet milk every hour; extract of beef also to be given every hour or two.

July 16th.—Some improvement.

July 17th.—The fever was relieved.

July 18th.—Patient doing well; ordered that the iron, quinine, strychnia, and phosphoric acid be given again as before, it having been discontinued during the attack of fever. She continued to improve from that time, and on the night of the 10th of August I was summoned to attend her in labor.

When I arrived at the house and saw her, I was astonished at the great improvement she had made; the pallor had left the mucous surfaces, the heart was now acting normally, and she expressed herself as being well. Her labor pains were feeble, and upon vaginal examination, I found that the os had not dilated, neither was it affected by the pains. Being satisfied that labor had not set in, I gave her an opiate and left.

On the 25th I was again called to attend her, and found her in active labor, the os dilating. Labor progressed well for one or two hours and then ceased, the os refusing to dilate, and becoming rigid and very sensitive. Under the use of hot baths, chloral, morphia, and rupturing the membranes, it gave way, and she was delivered of a fully matured fœtus in a state of decomposition. The patient made a rapid recovery and is now in the best of health. In conclusion, I desire to call attention to a few points in this case: 1st. To the rapid recovery of this patient under such unfavorable circumstances, viz., pregnancy existing as a complication. 2d. To the efficiency of this line of treatment,

viz., iron, quinia, strychnia, and phosphoric acid, with good diet. 3d. To the length of time the fœtus remained in utero after its maturity and death; for, according to her reckoning, labor should have occurred on the 10th day of August, at the time she had spurious pains. The patient says that she never felt any movements of the child after that date. Then we must conclude she carried a dead fœtus from the 10th to the 25th of August.

J. M. MATHES, M. D.

CARLISLE, Ind., Dec. 29th, 1877.

Recovery from Poisoning by six drachms of Chloroform taken in the Stomach.

I was recently called at 10:30 a. m., to see a young lady who had just been found in an unconscious condition, presumably from the effects of an overdose of chloroform.

From what I learned of the family I think that the patient had taken the poison half or three quarters of an hour before I saw her; I found her thorougly anæsthetized, respiration nearly normal and pulse eighty per minute.

The patient, who had already vomited profusely, vomited again shortly after I entered the room, so that there seemed no need of emetics or the stomach pump.

From the odor of bottles found in the apartment, I suspected that the patient had taken hydrate of chloral, but there was no means of ascertaining the quantity as she had carefully removed the label from the bottle in which the poison had been procured.

I sent at once for carbonate of ammonia; but when it arrived the patient was unable to swallow, the respiratory efforts were becoming inefficient and the pulse was gradually failing.

The patient was given frequent inhalations of ammonia, and the twentieth of a grain of sulphate of strychnia by hypodermic injection; another dose of one-fortieth of a grain of sulphate of strychnia was given about three quarters of an hour later. Finding the action of the heart and respiratory muscles steadily failing, I dispatched a messenger for an electric battery, but before his return, and while I was alone with the patient, the respira-

tory efforts ceased so that life was only sustained by artificial respiration. In this emergency I sent for Drs. E. Ingals and Norman Bridge; both soon came in and assisted me for the next hour and a half.

Artificial respiration became necessary about two hours after the poison had been taken. Electricity was applied about half an hour later, one pole to the nape of neck and the other to the pit of the stomach and various portions of the chest. The pulse by this time had fallen to fifty-two per minute and the respiration was wholly artificial for some time.

From twelve o'clock until half past one, artificial respiration was maintained, and during the greater portion of the time the battery was in frequent use.

During a considerable part of this time if artificial respiration was suspended there would follow a few faint respiratory efforts which would then cease, so that had the patient been left for five minutes death would surely have been the result.

About an hour after the first dose of strychnia, considerable rigidity of the muscle of the arms occurred and continued for fifteen or twenty minutes.

Perfect anæsthesia was maintained for three hours, when a slight movement of the eye, upon touching the conjunctiva, indicated returning consciousness. Half an hour later we noticed the first voluntary movement and at three p. m., about five hours after the drug had been taken, the patient awoke. Respiration had then been regular for some time; a half hour later I left the patient, conscious and able to swallow the strong coffee which had been prepared for her.

I called again in a couple of hours and found her comfortable excepting for frequent attacks of nausea and vomiting. She informed me that she had taken twenty cents worth of chloroform, which from her description was a trifle more than six drahms.

The patient refused to give the name of the person who sold her the chloroform, and probably it would be of no use to find out, for people who wish to take poison will always find some druggist willing to sell it to them; and if it be true, as my friend Dr. Brower is disposed to believe, that nine tenths of those who attempt suicide are insane, possibly they who encourage these

unfortunates in their efforts at self destruction, are as kind as the physicians who attempt to thwart them.

E. FLETCHER INGALS, M. D.
188 CLARK STREET, CHICAGO.

Enormous Dilation of Sigmoid Flexure, with History of Case.

I was called January 31st, 10 a. m., to see J. B. Farmer, aged 51 years. He had been subject to occasional attacks of "bilious colic" for nearly ten years, during which he vomited frequently and severely, and suffered from severe pain in the bowels. He had been troubled with constipation, especially preceding these attacks. He had also not felt well for nearly a week, and the day previous, began having severe paroxysmal pain in the bowels, accompanied by nausea and vomiting, which continued during the night and were still present. The skin was about normal; tongue dry, white fur in center; pulse 70, soft; temperature normal; appetite lost; bowels constipated; abdomen slightly tympanitic and somewhat tender; no tumor could be felt; the material ejected by vomiting consisted of bile, mucus and fluids taken into the stomach. I administered hypodermically morphia sulph. gr. $\frac{2}{3}$, atropia sulph. gr. 1-60; ordered a large hot poultice applied to the abdomen continuously, and small bits of ice given ad libitum; also, bismuth sub. nit. gr. vi. every four hours. I also left a powder containing ten grains of calomel, to be given at night. I called early next morning; the calomel had not operated; there had been no pain nor vomiting since last visit. Pulse 68, temp. 98°, resp. 20. I administered one tablespoonful of rochelle salts, and after waiting several hours, used an enema which was passed at once without any fæcal matter. I left another dose of salts to be given at noon if the bowels had not moved.

I was called again at 2 p. m. in haste, to find my patient suffering great pain in the hypogastric region, and vomiting occacasionally. His bowels had not moved; several enemata had been given; pulse 72, temp. 99°. I at once gave up any further effort to move the bowels, and administered a hypodermic injection as before. Patient soon became quiet, and rested well for several hours. The poultice was continued, and fluid nourishment given

freely. At 8 o'clock p. m. he was suffering some pain in bowels; no vomiting; pulse 70, and had passed some mucus from the bowels two or three times with considerable tenesmus. At 10 o'clock p. m. the pain very severe; abdomen more tympanitic. I administered another hypodermic injection, which gave temporary relief.

The patient frequently tried to eject gas from the stomach by belching. The swelling of the abdomen kept increasing until midnight, becoming finally enormous, and causing great distress. Pulse 78, temp. 99°, resp. 36, short and labored. I administered various carminatives, but without relief; ordered turpentine stupes and used a rectal gum elastic tube, hoping to relieve the colon of gas, but could not pass it beyond the sigmoid flexure. The patient begged to have the "wind pumped out of his stomach." I passed a No. 10 catheter into the stomach, when quite a quantity of gas escaped. The abdomen was so tense that it seemed as if the gut must rupture. A distinct ridge revealed (as I thought) the outline of the distended ascending colon. I now left him, to get a trocar, intending to tap the colon. When I returned two hours later (3 o'clock a. m.), his suffering was most intense; pulse 140, temp. 102°, resp. 40. His wife would not permit the trocar to be used. I therefore administered injections per rectum of a decoction of tobacco, which seemed to give temporary relief.

I kept him quiet with hypodermic injections until Doctor S. M. Hamilton, of Monmouth, who had been called in consultation, agreed with me as to the necessity of tapping, and very skillfully operated, perforating, as we supposed, the ascending colon, and giving vent to a large quantity of offensive gas. This gave great relief. The respiration fell to 30, pulse, 132; abdomen quite tender.

He still passed mucus occasionally with tenesmus. I continued the opiates and concentrated fluid nourishment with whisky, and yielding to the wishes of the friends, injections were administered occasionally of a solution of ox gall. His wife thought that "if he could only have a passage from the bowels he would get well."

At eight o'clock p. m., the patient was delirious; no pain;

pulse 140, small; abdomen distending rapidly. At 10 p. m., delirium continued, the abdomen was very tense; respiration 40. At 11 o'clock I tapped the bowels again about half an inch above first puncture, permitting the escape of a still larger quantity of gas.

The respiration fell to 24; pulse 144, and thready. He rested quietly until about 3:30 o'clock a. m., when he began to sink, and died at about half past four.

Autopsy ten hours after death. Rigor mortis marked; on opening the abdominal cavity, I cut down upon what proved to be an immense sac-like dilatation of the sigmoid flexure, which entirely covered the anterior surface of the bowels, and which we had punctured on the right side, instead of the ascending colon; it extended as high as the cruciform cartilage, and was perfectly black from congestion. Further examination revealed extensive enteritis, and general peritonitis. The sac was empty, its walls thick and muscular, and it would hold at least a gallon. No fæcal accumulation in any part of the bowels; no apparent contraction below the sac; no morbid deposit in walls of rectum. The liver and spleen were congested and somewhat softened; other organs healthy.

Query. At what time did general inflammation begin? Did the purgatives administered light up, or only aggravate an already exisiting entero-peritonitis? I did not diagnosticate the above until within 24 hours of death. Did it exist prior to that time, with a pulse rate of 70, and temperature of 98½°? Will some one please answer?

H. L. HARRINGTON, M. D.

WARREN CO., ILLS.

The Value of Electricity in Paralysis.

Dr. Brown-Séquard, having recently lectured in our city, the following case may be more than usually interesting. The chief object in reporting it is, however, for the purpose of calling the profession to the importance of the immediate use of electricity in these cases, instead of delaying for several days as recommended by most writers upon the subject.

Let it be remembered that the sooner the function of respira-

tion, for instance, is restored—when stopped by hanging, drowning or other causes of suffocation—and the shorter the duration of its broken continuity, the better will be the chances in both instances for the patient's recovery.

This will also be strikingly observed in the causes which produce anchylosis.

The deduction to be made is, this: *the quicker the nerve cells are aided in the performance of lost function, the greater hope there will be of restoring them to permanent normal activity.* Delay here must therefore be dangerous if anywhere.

What, then, can accomplish this quicker than electricity?

Case: Mrs. C——, an apparently healthy married lady, American, age 27, seven and one half months pregnant; somewhat subject to insomnia and nervousness; the mother of three children.

On the 17th of last December, after running a couple of blocks to catch a street car, she was suddenly seized with total paralysis of the right side of the body and face. When seen, two and one-half hours subsequently, she was found in this condition: face contorted and livid; right pupil slightly dilated; forehead a trifle hot; right arm and hand a little cool; she was entirely speechless and vision obscured; perceptions blunted; hearing obtuse; breathing somewhat stertorous; pulse normal; respiration 12: heart not examined unfortunately. Ordered cold to the head and warmth to the feet, and applied immediately *with gentle power*, the positive electrode of a Kidder's machine to the base of the cerebellum, the other to the foot, alternately to the hand, retaining the first at the neck, during the whole time of employing the current, about half an hour.

After it was applied in this manner for five or eight minutes partial articulation was possible and the power of mobility partially returned; both became almost normal at the end of one hour. But, owing to so many friends calling, in mistaken kindness to see her, all the former symptoms returned after a cessation of three hours.

May I say that when called an hour after the second attack I had little regret? Let me state that the therapeutic value of the electricity was so thoroughly proven by the second applica-

tion acting as promptly and efficaciously as in the first attack, that it seemed a positive demonstration of its value, and left scarcely any room for doubt. The patient was treated, for a few days, with 1-20 grain doses of strychnia and grain doses of quinine. Six weeks after the attacks she had a perfectly natural labor and a moderately healthy child.

For two months previous to the paralysis she had been subject to slight opisthotonos every two or three days; since then these attacks have been much less frequent. On account of the pregnancy, I did not push the strychnia to its full therapeutical action. It seems probable that the dorsal tetanus may pass away upon resuming the strychnia treatment. Much experience has taught the writer the great value of electricity in nerve-cell difficulties, when used promptly and of *moderate* strength.

WM. E. RENNOLDS.

SPREAD OF CONTAGIOUS DISEASES.—A contemporary medical periodical has recently called attention to the possibility of transmitting contagious diseases by the medium of books in public libraries, which frequently circulate between the homes of the healthy and the abodes which are stricken with pestilence.

Another method of extending the contagion, certainly of some of the exanthemata, may be found to be the handling of articles in the shops of dry goods merchants. We recently saw in such an establishment a young girl inspecting some materials for dress, whom we recognized as the inmate of a household, one member of which had variola. Surely the next lady, unprotected by vaccination or previous diseases, who might chance to handle the same goods, would run a terrible risk.

A MEETING of the University of London was held January 15th to consider the new supplemental charter providing for the admission of women to degrees in all the faculties. The question was warmly debated. The vote stood 242 in favor of and 132 against it. The university will ask the government for powers to grant the same degrees to women as it now grants to men.

Society Reports.

SOCIETY OF PHYSICIANS AND SURGEONS.

REPORTED BY JUNIUS M. HALL, M. D.

Regular meeting at Grand Pacific Hotel, March 11th, 1878, President Wm. H. Byford, M. D. in the chair.

The minutes of the last meeting were read and accepted by the Society. Dr. Henry W. Boyd was elected a member of the Society.

The following paper on EXFOLIATION OF THE COCHLEA was then read by Dr. S. O. RICHEY.

This process is a comparatively rare one, and is one of the results of chronic suppurative inflammation, which in its course involves the labyrinth.

The membrana tympani has generally been destroyed, and the ossicles of the middle ear have previously been lost. Sometimes it has been complicated with polypi and mastoid abscess. In many of the cases observed, the cochlea alone of the labyrinth has been thrown off, while in other cases the cochlea, vestibule, semi-circular canals, etc., have been exfoliated.

It has been claimed that some power of audition has remained after the cochlea alone has been removed, but that when the whole labyrinth has been destroyed no hearing power has remained, while there has usually been facial paralysis.

It is difficult to decide, without an autopsy, that no part of the labyrinth except the cochlea has been lost, unless the surgeon is present, each time the ear is syringed, so that he may know what is cast off when he sees it. It is well known that the ossicles are often washed out by the patient or his friends without being

seen by them. May not a sequestrum from the labyrinth as easily escape notice?

Facial paralysis accompanying chronic suppurative inflammation of the tympanum, is not a reliable symptom of the destruction of the entire labyrinth, though it be associated with complete deafness, as it may arise from other causes.

I have known one case in which partial paralysis of the right portio dura seemed to be due to the pressure of accumulated pus in suppurative inflammation of the right middle ear. There was no reason to suppose the labyrinth was at all affected, as the hearing was improved by removing the pus from the middle ear, and the paralysis was relieved when the discharge ceased. It has been my good fortune to have under observation at the Illinois Charitable Eye and Ear Infirmary, two cases in which the cochlea became necrosed, and was extracted.

The first case is that of Daniel Gubbins, aged 8 years, who came under care as a dispensary patient, May 30th, 1876. The statement of the mother of the boy is, that more than 8 months prior to this time, the boy had been sick with measles, and during his sickness, "he had a bad ear ache" in the right ear, which "got very red and swelled up."

A day or two afterwards "he had a gathering" in that ear. She claimed to have washed several "gravels" from the right ear, which she thought might have been the cause of the inflammation. These were in all probability the ossicles of the middle ear.

At the time of his application for relief, the tympanum contained fetid pus, which escaped from the external meatus, and through two other openings, one above, and the other behind the auricle. The pus escaping from the fistula above the auricle had burrowed under the retrahens muscle, and had formed a sinus at least an inch in length. Necrosis of the squamous portion of the temporal bone had occurred at the upper opening, about which, in consequence, there was unhealthy and excessive granulation.

Several spiculae of dead bone were taken from this region, and the granulations were reduced by the solid nitrate of silver. The membrana tympani was entirely destroyed, and the external

meatus and middle ear contained numerous polypi, which were extracted, and their bases cauterized. Medicated solutions could then be forced into the meatus and out through the artificial openings, or into these openings and out through the meatus.

The whole right side of the head seemed enlarged, and the child staggered if he attempted to walk alone; the mother steadied him by keeping her hand on his shoulder.

Even after he had improved greatly, if he endeavored to cross the room alone to a chair on the opposite side, he would go to a point somewhat to the left of the chair, until he came near it, when he would stop, change his deviation and reach the chair.

Instead of carrying his head erect, he leaned it very much towards the left shoulder.

If he were asked a question, he would after some hesitation, answer in a quick jerking manner. He was pallid, slept badly, and had a poor appetite, but he did not complain of any pain at this time.

Hearing distance, right ear=$\frac{0}{48}$.

Profuse granulation took place in the sinus behind the auricle, and continued, regardless of the efforts made to control it, until it became necessary to open up the sinus.

In doing this the retrahens muscle had to be cut across, and of course the auricle fell forwards and below the plane of the other auricle, giving to the patient a somewhat peculiar appearance. The cicatrix, by contraction, has restored the pinna almost to its former position. The improvement has been gradual, and although the suppuration has nearly ceased many times, it has been again brought on by inattention at home and by exposure. The treatment has been cleanliness, and the application of carbolized and astringent solutions, the astringent being changed from time to time.

A strong solution of the nitrate of silver has been applied once a week.

Sept. 15th, 1877.— The necrosed cochlea was removed from the middle ear in which it could be seen. It is nearly perfect in form. At no time has there been any evidence of facial paralysis, so far as has been observed, nor does there seem to be any power of audition on the right side.

Every sound he recognizes he attributes to the left ear, even though the meatus of that side is closed.

The *second case* is that of Mr. Bernhard Sturm, aged 40 years, a resident of Jefferson county, Ill., who became an inmate of the Illinois Charitable Eye and Ear Infirmary, May 19th, 1877. His history, as given by himself, is as follows:

"He does not know that he had any trouble with his left ear prior to his tenth year. At that time, while standing on ice, he was thrown down and his head struck the ice with so much force that he was insensible for a day and a night afterward, and he does not think he has heard anything with his left ear since." In the cranium at the junction of the sagittal with the lambdoidal suture, there is a depression so deep as to receive a finger, its length being in the direction of the lambdoidal suture. This he claims to be a result of the fall. Subsequent to the fall, he felt no inconvenience except as to the loss of hearing in the left ear, until eight years ago, when it began to have a disagreeable odor, and continued to do so, although no discharge was noticed until the middle of March, 1877.

During the two winters preceding that of 1876-7, he had constant and severe pain in the left ear, which caused him much loss of sleep. This pain left him each spring when the weather became warm, until 1877. The left ear was unusually painful immediately before it began to discharge, March 1877. From the time suppuration began until he came to the infirmary, he could obtain only one or two hours' sleep in the twenty-four. He claims to have been several times "out of his head" with pain. For many weeks before he came into the infirmary, he could not walk alone because of dizziness, and if he attempted to turn around quickly, he would fall. Dr. J. H. Newton, his family physician, writes in regard to his case: "About March 12th, 1877, after a few days' exposure to a cold rain, he was taken with intense pain in his head and ear, accompanied with rapid pulse, vomiting and delirium. Upon the subsidence of the first fever, diplopia showed itself, and remained with him while he staid here, together with unsteady gait and confusion of ideas. Somewhere about May 1st, a small piece of bone,

very much corroded, came out of his ear. I thought it a portion of the malleus."

The patient also mentioned this piece of bone, and compared it to a grain of wheat in size and shape.

When he was admitted into the infirmary, he had severe pain all through his head, referable particularly to the left temporal region. His appetite was poor, and he complained of constant nausea. His countenance was pallid, his gait unsteady, and he weighed 125 pounds. There was diplopia, due to the divergence of the left eye, and the vision of that eye was somewhat confused. Nothing was done for this directly, but the difficulty disappeared in about one month, under the treatment to which the ear was subjected. In the external meatus, near the membrane of the drum, growing from the anterior and upper portion of the canal and nearly filling it, was a polypus.

No portion of the membrane of the drum remained, the ossicles had been lost, and the middle ear contained several polypi, bathed in pus. These polypi were removed with forceps, and their bases destroyed with chlor-acetic acid. Hearing distance, left ear=$\frac{0}{48}$.

Two days later the meatus was so swollen that it would admit only a small probe with a little cotton twisted tightly about it. By this means nitrate of silver was applied to the external meatus and the middle ear, and the swelling very gradually reduced. The pain in the head continued, except when relieved by blisters over the mastoid process, by bromide of potassium, or by quinine, until the first sequestrum, a portion of the cochlea, was removed, Oct. 19th, '77.

Suppuration also continued freely during this period, after which it immediately diminished, until it was almost imperceptible, and the patient was free from pain.

The external meatus slowly resumed its natural size, the patient slept comfortably, his appetite improved, and he gained in weight until Nov. 20th, when he weighed 153 pounds, three pounds more than his usual weight.

Nov. 20th. A second sequestrum was taken from the middle ear. I had touched it and turned it over two days before with a probe, and it seemed then to be buried in the soft tissue, in the posterior portion of the tympanum, near the mastoid cells. The

day it was removed, it could be seen, beyond the middle ear, and was withdrawn by a small hook. Its shape and structure indicate that it was thrown off from the mastoid cells. Since that time no suppuration has occurred in this ear, nor has there been any pain in it.

Dec. 29th.—A new membrane of the drum was recognized by Dr. S. J. Jones, occupying the usual position of the membrana tympani, but lacking of course the support of the ossicles. It was less concave externally than is common.

When the middle ear was inflated the membrane could be seen to move outward. It would resume its original shape and position when the air was withdrawn from the middle ear.

Bromide of potassium diminished the pain in the head for a short time, early in the treatment of the case, and afterwards seemed to be useless. Sulphate of quinine was substituted for it, and relieved the prominent symptom. The patient had lived in a miasmatic district, and the presence of a malarial element is probable. The watch cannot be heard when pressed upon the left auricle. If one tip of the diagnostic tube be placed in the left external meatus, and a vibrating tuning fork be placed in contact with the other end of the tube, he does not hear it. If a vibrating tuning fork be placed on any portion of the cranium, he always attributes the sound to the right ear. The voice is heard with much more difficulty, if both meati are occluded, than if the right meatus alone be closed. Thus the evidence of power of audition in the left ear is entirely negative in its character.

That there is hearing power in this ear may be possible, but if so, it is too small to be of any practical value.

Each of these cases presents some points of special interest. They are similar in the unsteadiness of gait, having a tendency in direction toward the healthy side.

The first sequestrum, in the case of the man, is smaller, more imperfect, and was more difficult of removal than that of the boy, whose cochlea is nearly normal in shape. The boy had mastoid abscess, with free communication between the mastoid abscess, the external meatus, and the pharynx. Parts of the temporal bone were lost by necrosis, and he leans his head toward the shoulder of the healthy side.

In the case of the man, pain in the head existed for a period of several months, and there was diplopia, due probably to some interference with the healthy action of the third nerve, which supplies motion to the internal rectus, or of the sixth nerve, which performs the same office for the external rectus.

The treatment has been much the same in each case, nitrate of silver being the chief application locally.

Dr. Richey then exhibited the specimens of necrosed bone removed from the two patients. At his request both of the patients were present, and an opportunity was given each member to examine them per speculum.

Considerable discussion followed.

Dr. Montgomery had listened with great interest to the report of the two cases by Dr. Richey. He had never met with a case nor had he seen mention of a case where the membrana tympani had been restored after exfoliation of the cochlea. It was certainly a very rare result.

In acute suppuration with a tendency to mastoid complication, he had had very good results from the use of the tincture of iodine as a counter irritant, applied all around the auricle. Internally the parts should be kept thoroughly cleansed, and astringents and stimulants occasionally applied. Nitrate of silver is his favorite application.

Dr. Bevan related one or two cases to show the great mental depression and lack of self confidence in those who had suffered for any length of time from serious ear trouble.

Dr. S. J. Jones reiterated the sentiments of Dr. Bevan. He considered it very unfortunate for the patient, that he should allow his disease to continue for so long a time, before applying to the surgeon for relief. If application were only made when the disease first showed itself, the hearing would undoubtedly be greatly benefited in the majority of cases.

Dr. S. J. Jones presented three additional cases in which there had been closure of artificial openings in the membrana tympani, the result of spontaneous perforation, occuring as the result of suppurative inflammation of the middle ear. They presented different aspects of the drum membrane after such closure, in all of which the new membrane formed, seemed to be thinner than

the normal membrane of the drum. They showed how incorrect is the general impression, that any opening in the drum membrane is permanent and that it is fatal to hearing. Allusion was also made to another fallacious impression that it is dangerous to check a suppurative process of long standing in the ear, lest metastasis occur. This discharge being a consequence of an inflammatory process, must find an exit, and it usually does so though the drum membrane and occasionally, also, though the mastoid process. There can be no danger in controlling the inflammation which is producing this discharge and destruction or alteration of the tissues locally, and which often impairs the general health.

The course of treatment usually pursued in these cases is thorough cleansing of the parts as of primary importance, and following this with stimulants and astringents. Strong solutions of nitrate of silver, and also tincture of myrrh are serviceable.

A case of double congenital coloboma of the iris (in a child two years old) was also presented at the meeting. In the right eye the coloboma is upwards and outwards, whilst in the left eye it is downwards and outwards. There is present alternating convergent strabismus, but the left eye is more relied upon by the child for vision than is the right one. There is no evidence of a similar affection in any other member of the parents' families.

The history of three similar cases of coloboma in one family which had recently come under Dr. Jones' notice was also given. Three out of eight children were thus affected. The opening being not only through the iris but through the choroid as well, so that the sclerotica could be seen with the ophthalmoscope, almost to the entrance of the optic nerve. Their ages are respectively ten, five and two years. Children born between these had no such defect, nor could any information be obtained of any similar cases in either of the parents' families, nor of any of hare-lip or of cleft palate.

The meeting then adjourned.

CHICAGO MEDICAL SOCIETY.

Regular meeting, Monday, March 4, 1878. President Dr. E. INGALS in the chair; 20 members present.

Methods of measuring the lower extremities.—Dr. JOHN BARTLETT read a paper in which he pointed out the defects of the commonly adopted modes of measuring the length of the legs. He then exhibited a new apparatus which makes the measurements perfectly reliable; he explained the principles upon which the apparatus was constructed, described its construction, and demonstrated its application.*

Regular meeting, Monday, March 18, 1878. President Dr. E. INGALS in the chair; 32 members present.

Dr. T. D. FITCH read the *Report on Obstetrics*, dwelling at some length upon the following subjects:

1. *Use of Anæsthetics in Labor.*—This question was thoroughly ventilated at the meeting of the American Gynæcological Society last year, and at the meeting of the Detroit Medical Journal Association. The discussion on both occasions revealed the fact that the leading obstetricians are far from being unanimous in their opinion regarding the use of chloroform or ether—the harmlessness or injuriousness of anæsthesia. The essayist's view of the question is that anæsthesia, partial or complete, has a strong tendency to diminish the force and frequency of uterine contractions, or of abolishing them entirely; that it also abolishes the contractions of the abdominal muscles and diaphragm which materially aid in the expulsion of the fœtus. Anæsthetics materially interfere with the third stage of labor, and predispose to post-partum hemorrhage. "I have had sufficient experience in this matter to convince me that they should not be used under any circumstances in this stage of labor, not even when manual delivery of the placenta has to be

* We shall publish the full description, with illustrations, in an original communication on this subject by Dr. Bartlett in our next issue.—ED.

resorted to." He prefers ether to chloroform, and gives an alcoholic stimulant from fifteen to thirty minutes before the anæsthetic.

2. *Hot water as a hæmostatic.*—Considerable has lately been written on injections of hot water to arrest uterine hemorrhages. Instances from American, French and German literature were quoted to show the successful application of hot water in metrorhagia. The writer's experience fully confirmed these reports. He tried it in two cases of abortion, the flowing was excessive and the patients were almost pulseless. The hot water acted like magic; in a few moments all flowing ceased and in less than half an hour the fœtus was expelled. Both patients made excellent recoveries. In eight cases of menorrhagia in which the flowing was very profuse, the hot water injections proved most beneficial, in every case controlling the flowing. These hot water injections (105 degrees F.) are more pleasant to the patient than the cold water, and never cause any dangerous reaction.

3. *Management of cases of abortion, especially of its third stage.*—On this subject a very interesting debate took place at a meeting of the New York obstetrical society in last February. The management favored by the majority was to dilate the os uteri, and then give ergot to expel the fœtus. As to the placenta if it could be easily removed, let it be removed at once; if adherent and not removable without too much force, let the tampon be used and ergot given for several days; if that was not sufficient, then dilate the os and remove placenta, using disinfectants afterwards. Dr. Fitch always first makes an examination and inspects the discharges to know whether the ovum or placenta, or both, have been discharged. If flowing is slight and os undilated, enjoin rest, empty the bowels and give an opiate. If flowing is profuse, and os undilated, use tampon and ergot; if os is dilatable, dilate with finger and remove ovum with finger or hook or forceps if you can feel it; but if you cannot reach any part of the ovum with your finger, do not work in the dark, fishing for it with instruments, but give ergot and let the uterus alone.

The discussion which followed revealed the fact that in regard to the use of anæsthesia in labor cases and in regard to the man-

agement of abortion, there exists as much diversity of opinion among western practitioners, as among their eastern brethren. But the hæmostatic effect of hot water injections was confirmed by every one who had tried them.

The committee appointed at a previous meeting to confer with the Society of Physicians and Surgeons regarding a union of the two societies, reported that a conference was held which resulted in making to both societies the following propositions: The Chicago Medical Society shall hold its meetings at a central locality; the members of the society of Physicians and Surgeons not already members of the Chicago Medical Society shall become members of the latter society without initiation fee; reorganization of the working plan of the society.

A very animated debate took place; but final action on these propositions was deferred.

THERE are two different states found in women where iron is either totally contra-indicated or to be given with great caution. The first is a condition of amenorrhœa in florid, plethoric persons. The other is the opposite condition of menorrhagia in certain females. There are cases of menorrhagia associated with pallor and debility, where the usual compound of iron and extract of ergot is not so useful as a non-chalybeate treatment. In these cases it is not any imperfection in the process of blood manufacture which is to be remedied, for the blood is made rapidly and quickly, only to be lost at each menstrual period. It is here desirable rather to limit the rapidity of the blood formation, so that when the several vascular turgescence of the menstrual period comes, it will not find the blood vessels too distended with blood. This will lead to diminished catamenial loss, and so the blood waste will be economised. According to the experience of Dr. Brown Séquard and Dr. Hughlings Jackson, iron does not suit epileptics. It increases the tendency to fits. It may improve the general condition, but it aggravates the epilepsy.—*Dublin Medical Press*, Oct. 3.

Correspondence.

Mr. Editor:—I notice in the January number of the JOURNAL AND EXAMINER a case of ovariotomy reported by Dr. E. R. Willard, of this city, as having occurred in *his* private practice. Now I wish to make some corrections in regard to the case. In the first place, the case belonged to me, and has been under my care since April 25, 1875, to this date, and Dr. Willard did *not see* or *treat* the case from that date until about October 20, 1877, when I invited him to visit the case with me and examine it with reference to an operation. The lady visited Dr. A. W. Heise with me on May 26, 1876, who advised her, at that time, to let it alone. About August 20, 1877, she again visited Dr. Heise, who advised paracentesis, which was performed by me as stated by Dr. W., on August 28, and September 30, 1877. On October 26, 1877, I performed the operation of ovariotomy, *assisted* by Dr. E. R. Willard and his son G. E. Willard. Dr. W. seems to have been in great haste to report the case, and whether intentionally or not, to claim all the honors. I desire to call the attention of the readers of his statement to a full report of the case, which will soon appear in the *Philadelphia Medical and Surgical Reporter.*

D. J. MERRIMAN, M. D.

WILMINGTON, ILL., Feb. 13, 1878.

[We are pleased to furnish the opportunity of correcting the apparent error, to which attention is directed in the above communication, and must adhere to our rule by declining to print any further communication on the same subject, in order to avoid a controversy in which the mass of our readers are not interested. —ED.]

NOTES ON GYNÆCOLOGY AND GYNÆCOLOGISTS ABROAD.

(From our Foreign Correspondent.)

VIENNA, February 26, 1878.

After more than twenty years spent in active practice, I have come abroad with, I hope, few deeply rooted prejudices of my own, and with a desire to impartially observe the treatment of disease by the best men in Europe, in the hope of receiving benefit from what I shall see and hear.

On account of the many conflicting opinions which I have found entertained by these great lights in our profession, and more especially in that branch of our art which I have named as the title of my letter, I have more than once envied that man, who being deeply grounded in some particular medical faith, hobby or theory, is able to look down with an eye of profound commiseration on all who are outside of the pale of his contracted mental horizon. These conflicting views pertain not only to the treatment, but to the nature and pathology of uterine diseases.

One gynæcologist, for example, exhibits a case of chronic corporeal metritis, the length of the body of the womb and the character of the discharge, all combining to render such a diagnosis as clear to him as the sunlight in heaven.

Another decides that this identical pathological condition is due to endometritis, stoutly maintaining that chronic metritis proper, is as rare an affection according to his observations, as elephantiasis in Lapland.

Still another calls attention as he looks through the speculum, to a typical case of ulceration of the cervix, which his neighbor calls a simple erosion and so on, ad infinitum.

In treatment the best authorities are no less at variance. One uses with impunity, instruments and medication, that another not only disapproves of, but considers dangerous to life.

The first gynæcologist of note whom I interviewed after land-

ing in Europe, was Dr. Athill, of Dublin, whom it is unnecessary for me to introduce to the intelligent reader of this journal.

After the simple presentation of my card, he received me with that warm hospitality so characteristic of the cultivated Irishman.

He is a little spare built, dark complexioned man, apparently about forty-five years of age, and as full of energy and life as Barnum in his palmiest days.

His local treatment of what Dr. Thomas calls glandular erosion of the cervix, is an application of two parts of carbolic acid and one part of alcohol.

He makes these applications once or twice a week, irrigating the parts twice a day freely with warm or tepid water.

This process of irrigation of the mouth of the womb, is rendered more efficient, as well as greatly simplified, by using the bed pan which Dr. Athill has constructed, and which is illustrated in the last edition of his very excellent little work on uterine diseases.

He is very emphatic in his condemnation of the use *locally*, of the preparations of iron and other powerful astringents to the womb, on account, as he thinks, of their liability to obstruct the circulation in the parts, producing thrombi, and the secondary train of evil consequences that are likely to follow. Showing me a case that was typical of what many American gynæcologists recognize as a laceration of the muscular fibers of the cervix, and treat by paring the edges of the flaps and bringing them together with sutures, I asked Dr. Athill what he thought of the procedure, and if he had ever tried it. His reply was, that although American physicians had done much to advance gynæcology, that just now, following in the wake of Dr. Sims, we were a little crazy on this subject of uterine surgery, and when a case presented itself we lost sight of every therapeutical appliance except the knife.

The position that Dr. Athill holds as master of the Rotunda is one of the best in Great Britain. The fund left to pay the master, by the founder of this great charity, now amounts, I believe, to $40,000 per year.

The gynæcological department is a new feature in this institu-

tion, but one that is being rapidly enlarged through the energy of Dr. Athill.

Professor Alexander Simpson, of Edinburgh, is a nephew of the world-renowned Sir James Simpson, and is a good example of what energy and hard work will develop, even where original talent was not perhaps of the highest order.

He came to this city as a poor boy, studied medicine with his uncle, and now occupies the position that Sir James had hoped to hand down to one of his own sons—but instead of that, one of them is an attorney with few clients, and the other is a spendthrift, who lives mostly on the Continent, and leads a life, if report be true, not calculated to shed lustre upon the name he has inherited.

Prof. Simpson did not strike me as a man who would ever extend our knowledge of gynæcology by original investigation; he seems to be content to follow in the footsteps of his distinguished uncle. He is a skillful operator, very tender and humane toward his patients, and greatly esteemed in society for his many worthy traits of character.

Prof. Matthews Duncan is in many respects the opposite of Prof. Simpson. He is rough and austere in his treatment of his hospital patients, and there seems to be but little cordiality between him and his medical class. He seemed inclined to attribute most uterine diseases to pathological changes in the os and cervix, and to treat them mainly by the application of pure nitrate of silver. Seeing many cases of uterine fibroid tumors in his wards, I asked the doctor what had been his experience in the use of ergotine hypodermically in the treatment of this affection. He said that he had tried it but it had done no good at all. I have been much interested on this point, and have repeated the same question to all the promenent men whom I have met and find none of them have any faith in the remedy. Prof. Simpson is the only man whom I saw using it.

Prof. Duncan is the most thorough skeptic as to the therapeutic value of drugs of any physician I have met. In his wards were a number of cases of well-marked chlorosis. Noticing that no medicine was given them, I asked, "Professor, do you not use iron in chlorosis?" His reply was, "*I never give iron*; it is one

of the delusions of medicine. We laugh at the infinitesimal dogmas of homeopathy, and yet nine hundred and ninety-nine out of every thousand of old-school physicians go on from year to year giving iron on a purely chemical theory, with not a whit of evidence in support of its virtues as a remedial agent."

He keeps his patients suffering from this disease quietly in bed, feeds them well, has the wards well ventilated, but ignores completely the value of medicines. During the last summer Prof. Duncan has been appointed to a professorship at St. Bartholomew's, in London, and as he and his friends have always felt that young Simpson's appointment to the chief professorship in the University of Edinburgh, was an injustice to him, his removal from here will greatly add to the harmony of this faculty.

Prof. Barnes, of London, is a typical "John Bull," large in frame, with a red face and nose that would seem to indicate free indulgence on the part of its possessor in a generous diet of beef and beer. For chronic endo-metritis his favorite local treatment is the tincture of iodine. If there coexists an involvement of the cervix, he applies to this part the nitrate of silver; but if either of the above diseased conditions is complicated with any marked displacement of the womb, he usually applies a pessary with a view to remedying this before instituting any local treatment. He usually employs some modification of the Hodge pessary, applying it to his charity patients who have often to walk a long distance to their homes; a procedure which he claims to be perfectly safe if you are only sure that your instrument is accurately fitted.

M. Guérin, of Paris, the great cotton man in surgery, has utilized this agent in the management of his gynæcological patients. He treats his cases of chronic ulceration and erosion of the os uteri, by cotton pessaries made in a conical form with a depression in the smaller end, which he fills with an astringent ointment of either tannin or one of the salts of iron. He applies this directly to the parts through a speculum, keeps his patient quietly in bed for some weeks, and his results, so far as a temporary healing of the parts is concerned, are very good indeed. The pessaries are changed once or twice in the twenty-four hours, depending upon the amount and character of the discharge.

I asked the doctor if these patients were not subject to relapses after resuming their ordinary avocations.

He answered that they would not if they remained under treatment long enough, that is from one to two months.

M. Guérin uses thick layers of cotton batting for all surgical dressings, to fulfill the same indications for which Mr. Lister employs his antiseptic gauze; and I will so far digress from my subject as to urge upon the reader, the adoption of his mode of treating severe burns.

The plan pursued is to apply freely to the burned surface a mixture of olive oil and lime water, and then envelop the parts in a thick layer of cotton batting, over which is applied a well fitting bandage. The first dressing is left on for from twenty-four to forty-eight hours, and then re-applied. After from six to ten days, the lime water and olive oil dressing is changed, and in its stead is used either an oxide of zinc or mild astringent ointment, according to the amount of the discharge and the condition of the wound.

The batting should be of the best quality, and the layer applied should be from 6 to 8 inches thick before the bandage is put on.

M. Guérin claims that by totally excluding the atmospheric air during the process of healing, the development of cicatricial tissue, which often proves such a source of evil in extensive burns, is greatly diminished.

I have seen patients brought into the Hôtel Dieu with extensive burns, suffering the most intense agony, in whose cases the relief from pain after applications of this dressing, was always immediate and permanent.

Professor Spaeth, of Vienna, is the best extemporaneous lecturer I have heard in this city.

His lectures are systematic in character, and include midwifery and the diseases immediately connected with the puerperal state.

Neither he nor Professor Karl Braun, ever allow any ergot to be given to a woman in child-bed before the expulsion of the fœtus, believing that the remedy acts toxicologically upon the unborn child, greatly endangering its life.

For puerperal convulsions he uses opium and chloral. Still, after reviewing the different modes of treatment that have been

adopted in this century, he avers that statistics in Vienna show them all to have been equally efficacious, and as they had been so varied, he is more than suspicious that they were all equally *worthless.*

On January 25th, 1878, Professor Spaeth read a paper before the " Gesellschaft der Aerzte " of Vienna, on the subject of the Cæsarean section.

He said, in the course of his remarks, that in the numerous instances where this operation had been done in Vienna during the century, only two patients had recovered, one of whom he brought before the society, in whose case he had himself operated.

Professor Karl Braun's course is mainly clinical in character, and is attended mostly by physicians and advanced medical students.

He is a large indolent appearing man, weighing perhaps 250 lbs., and greatly resembling " Boss " Tweed. He sits in his easy chair, talks in a most deliberate, and often hesitating manner, and whenever he is at a loss for a word to complete a sentence, he says, "Nun meine Herren," which an inquisitive Yankee listener says he repeated eighty times in one hour. Professor Braun is a man of powerful intellect, undoubtedly standing at the head of the profession in his department in South Germany. Like Billroth of this city, and Langenbeck of Berlin, he operates with a boldness far exceeding anything I have ever seen in America.

The removal of the cervix uteri by the galvano-cautery, for malignant disease of the parts, is a procedure that Professor Billroth resorts to constantly. He claims that this operation has been very successful in his hands, and when early and efficiently performed, the disease is not likely to recur.

In operating he removes all diseased tissue, regardless of the integrity of surrounding parts.

There is a patient in the hospital now, apparently well, into whose peritoneal cavity he opened when removing a cancer of the cervix; and fistulous openings into the bladder after his operations, are not infrequent.

His mode of amputating the cervix, where there is simply an

abnormal elongation of that part of the uterus, seems to me to be both simple and safe. He passes a straight needle armed with a double wire suture through the centre of the cervix, about one half inch above where he proposes to amputate. He then ties each one of these sutures firmly around each transfixed position of the cervix, so as to effectually cut off all circulation from the parts below. He next amputates the cervix with a scalpel, cutting half way through the parts from above downward, and the other half from below upward, the incisions being carried in each case, slightly from without inward, making a partial flap of mucous membrane to assist in covering the stump. The parts are then brought together by deep wire sutures, after which the first ligatures, passed in higher up to control the hemorrhage, are removed.

His cases, this winter, have all done excellently, and the bleeding has been insignificant.

I saw him operate on a woman, the third of three sisters who were sterile from an elongation of the cervix, and, as a similar procedure had remedied this condition in the first two, the third had applied to be treated in the same manner.

Professor Braun treats most of his cases of endometritis by first scraping out the entire intra-uterine surface with a sharp, spoon-shaped curette, and then injecting the womb with the liquor ferri chloridi.

The instrument that he uses, is a large hypodermic syringe, attached to the end of which is a hard rubber tube about the size of a No. 6 catheter, nine inches in length, slightly curved near its upper extremity, where it is perforated on the sides by a number of small apertures.

The quantity of the fluid used should vary from 15 to 30 m., according to the size of the uterine cavity.

The instrument is carried at first up to the fundus, and the fluid is slowly thrown in as it is being gradually withdrawn, so that by the time the fluid has all been injected from the syringe, the end of the instrument has nearly reached the external os.

The tube is now passed again slowly back to the fundus, and as this is being done, all fluid is again drawn into it, when the operation is completed.

His results in the treatment of some of his cases are very brilliant indeed.

To give a single example:

A woman about 30 years of age, unmarried and previously in good health, fell from a distance alighting upon her feet, and although no marked displacement of the uterus followed the accident, she complained ever aftewards of an uneasy and painful sensation about her pelvis, and had flooded nearly constantly from that time until she was brought to the hospital, a period of three months. The plan of treatment above described was carried out in her case and, although she was so weak from the loss of blood when the operation was done, that she could remain in the upright position but a few moments at a time, at the end of a month she went out entirely restored to health.

Although it may be "telling tales out of school," I will relate two cases that have resulted fatally during the present winter, by an error in diagnosis on the part of Prof. Braun.

The first was a case of extra-uterine fibroid as large as a child's head, occupying one iliac fossa. In the other iliac fossa extending to the median line, was another tumor of about equal size that fluctuated upon being percussed.

Prof. Braun, in lecturing on this case said: "Gentlemen, we have here evidently to deal with two tumors, one a cyst, and the other solid; and to further verify our diagnosis it is necessary to ascertain the nature of the contents of this cyst, and with that view I will tap it and draw off a portion of its contents.

Twenty-four hours later, the patient lay a corpse on the table in Prof. Heschl's pathological room. He had tapped a distended and displaced bladder and the patient had rapidly succumbed to peritonitis. The other was a girl, about eighteen years of age, who had never menstrated, though of late she had a slight discharge from the vagina. She complained of great pain in the region of the sacrum, and had latterly suffered considerably in evacuating her bowels. Prof. Braun first attempted a vaginal examination but finding the parts small, and the girl sensitive, introduced his finger into the rectum when he discovered a large tumor, situated as he said, behind the upper walls of the vagina and extending into the cul-de-sac of Douglas. This tumor

he concluded was an hæmatocele. To verify this diagnosis he introduced a large sized exploring trochar into it, per rectum.

No fluid making its appearance, he then applied the aspirator to his trochar. Still getting no liquid, he concluded that he was not high enough up, and pushed his instrument still further on. Three days later we had this patient on the table in the dead room.

The post mortem showed that she had a complete atresia of the superior portion of the vagina. The menstrual blood that had escaped from the womb had distended the upper walls of the vagina to an enormous extent. This blood was too thick to pass through the trochar, and when Prof. Braun had pushed his instrument further on, he had punctured the bladder; the urine had infiltrated into the cellular tissue behind the womb, as well as into this artificial sac, setting up a violent cellulitis, followed by a peritonitis, of which the unfortunate girl had died.

Dr. Chiari, who made the post mortems in these cases, very properly remarked that "When so great an authority as Prof. Braun can be so easily mistaken as to the nature of diseases connected with the female generative organs, it certainly behooves men of less ability and experience to be modest in enunciating their opinions, and careful about resorting to any expedient that may prove dangerous to life."

There have been 3,300 women delivered in Prof. B.'s lying-in wards alone during the past year. Of these 29 have died in child-bed. Only one has died of post partum hemorrhage, and one from rupture of the uterus. Nine in all have died of diseases peculiar to the puerperal state; the others dying of diseases that had existed prior to confinement.

The doctor is a thorough believer in the communicability of puerperal fever, of which we have had an outbreak here this winter. During its prevalence all students were excluded from the examination of pregnant women, the lying-in wards were abandoned, thoroughly cleansed and re-calcimined. In three weeks the disease was eliminated from the hospital.

The careful post mortem examinations made here, on all women who die of acute puerperal processes, whether of an epidemic or sporadic character, whether eventuating in peritonitis, uterine

phlebitis, or general septicæmia, seem to show that these affections take their origin in inflammatory and septic changes within the body of the womb itself. In view of this fact, both Professors Braun and Spaeth treat all these cases by a thorough drainage and cleansing of the intra-uterine surface.

Whenever the discharges in a puerperal case, by their odor or otherwise, indicate that they are becoming septic in character, the womb is thoroughly washed out with a 2 per cent. solution of carbolic acid.

The injections are made through a No. 12 English male elastic catheter, and this catheter is left constantly in the womb to act as a drainage tube, being removed, well cleansed and the injection repeated once in from eight to twelve hours.

W. S. CALDWELL.

ACCORDING to a statement in the Academy two healthy men allowed their limbs to be coated with impermeable plasters while the trunk was varnished with several layers of flexible collodium, which were allowed to remain for a week. None of the evil consequences observed in animals, made their appearance; there was no fall of temperature, no albuminuria, no exhaustion, no dyspnœa, convulsion or paralysis.

THE doctors of Havre have united and issued a circular to their patients threatening a general "strike" unless their terms are complied with. From $2.00 to $4.00 for night and urgent visits is the price demanded

DR. JAMES NEVINS HYDE will hold a special clinique for cutaneous and venereal diseases at Rush Medical College, every Monday throughout the year, at 2½ p. m., commencing with the 1st inst.

DR. R. L. REA has been recently appointed Professor of Anatomy in the Chicago Medical College.

Reviews and Book Notices.

PRACTICAL GYNÆCOLOGY: A Handbook of the diseases of Women. By Heywood Smith, M. A., M. D., Oxon. With Illustrations. Philadelphia: Lindsay & Blakiston. 1878.

The author of this volume states in the preface that his "object in the present work has been to present the busy practitioner with a book systematically arranged, burdened with no discussions on vexed questions of pathology, and giving at a glance the salient points of diagnosis and treatment with clearness and brevity." In all these respects he has fully succeeded; and, although the book is a small octavo of only 205 pages, he has managed, after devoting 21 pages to a description of the means and methods of making abdominal and pelvic examinations, 15 to a Table of Contents and 14 to an Appendix of Remedies and an Index, to consider the causes, symptoms, signs, diagnosis, prognosis and treatment of 108 different diseases. Of course, such a result could only be accomplished by a vigorous application of the "boiling down" process. There is probably not a redundant word in the book. As examples of the author's condensing ability, it may be stated that he disposes of the subject of Menorrhagia in less than a single page, and of Dysmenorrhea in all its varieties, in one page and a half!

The systematic arrangement of the book is admirable, and might be profitably followed by some of the larger and more pretentious works on diseases of women. Chapter I. is given to the Means of Diagnosis; chapter II., to General Diseases, or those of constitutional character, including Syphilis, Cancer and Phthisis; chapter III., to Diseases of the Ovary; chapter IV., Diseases of the Oviduct; chapter V., Diseases of the Broad

Ligaments; chapter VI., Diseases of the Unimpregnated Uterus; chapter VII., Diseases of the Vagina; chapter VIII., Diseases of the Vulva; chapter IX., Diseases of the Mamma; chapter X., Functional Diseases; chapter XI., Diseases Connected with Pregnancy; chapter XII., Diseases Connected with Parturition; chapter XIII., Diseases Consequent on Parturition.

Our author deserves our thanks for giving us a much-needed word, "Spammenorrhea," to express scantiness of the menstrual flow, as distinguished from its absence, both these conditions having been heretofore included in the term Amenorrhea, a word clearly applicable only to those cases in which there is no menstrual secretion.

On the mooted question, Dilatation *vs.* Incision, in the treatment of stricture of the cervical canal, at whatever point the constriction may be, Dr. Smith is in favor of the knife; and states his preference for the single-bladed hysterotome. He advises that the incisions should not be deep, and that they should be followed immediately by forcible dilatation.

It is a significant sign of the tendency of surgical opinion in regard to large uterine fibroids, that our author, speaking of the subperitoneal variety gives, under the head of Treatment, only one sentence, "where so large as to threaten health, removal by abdominal section." Likewise, he says, in reference to intra-uterine fibroids which for any reason cannot be successfully dealt with by other means, and where the presence of either pain, hemorrhage or rapid growth renders the patient's life unendurable or prevents her from pursuing her necessary avocations, that the total extirpation of the uterus and its morbid contents is advisable; providing only, that a more or less healthy cervix can be left as a stump, as the attempted removal of the cervix also would be attended with too great risk, owing to its relation with the bladder. And he draws attention to the fact that, although the operation of hysterectomy (he prefers this word to "hysterotomy" and "gastrotomy," as being more accurate, just as, for the same reason, he advises "ovariectomy" instead of "ovariotomy") is perhaps the most formidable in uterine surgery, the mortality after removal of the uterus is not greater than obtained in the early history of ovariotomy.

Two conditions are pointed out in which the author regards the process of "produced sloughing" as applicable to the treatment of intra-uterine fibroids; "one where the tumor is sessile and presents considerable difficulties to the process of enucleation, and the other where the uterus is so enlarged and misplaced by a tumor which may be mainly interstitial, as that the os uteri is tilted upward and jammed against or above the os pubis. In the former case, it is suggested to bore a deep hole into the most depending portion of the tumor through the os uteri by either the actual cautery or potassa fusa, opening thereby the capsule of the tumor. In the latter, it is recommended to, in fact, bore a new os uteri, as it were, by the actual cautery in the most dependent portion (the posterior) of the uterus itself. It has been successfully carried out; the tumor sloughing and disintegrating has been expelled gradually through the artificial os, and as the tumor thus becomes lessened, the uterus assumes its natural position, the os comes down from its former situation, and the hole through which the tumor has sloughed out eventually heals up."

For the reversion of the chronically inverted uterus, Dr. Smith gives decided preference to the plan of Dr. Noeggerath, of New York, which consists in feeling for the insertion of one of the oviducts and making steady pressure upon the spot with a finger, counter-pressure being at the same time made on the outside, or occasionally by pressing the uterus against the promontory of the sacrum. He regards this as by far the most scientific method of procedure, because the uterine walls are thinner in this situation than at any other point, and because, also "as the insertion of the oviduct is situated laterally, any gain of reversion is first made in that portion that intervenes between the insertion of the oviduct and the cervix; and the reinvagination of the cervix once having been begun, steady pressure will soon carry the whole of the organ upward in an oblique direction."

On the whole, the book is a good one, but who wants it? Even the busy practitioner, for whose needs it has been especially written, when desirous of referring to a particular subject, always prefers a full reference to a scanty one; so that if he had the

work before us, he would still need the larger work of Thomas, or Hewitt or Barnes; and if he were in possession of either of these he would surely have no need for this "Handbook."

We cannot help thinking that in his desire to do justice to his father, Dr. Protherae Smith, and to show his filial regard, our author has somewhat overstepped the bounds of propriety. The book is dedicated to his father, and with this we find no fault; but, in addition to this, there are in the body of the work no less than ten allusions to "my father" and his superior instruments, apparatus and plans of procedure. Of course, this may be considered only a matter of taste, but it seems to us to be not one of good taste.

A. R. J.

DISEASES OF THE NASAL CAVITY AND THE VAULT OF THE PHARYNX. Translated from the German of Dr. Carl Michel, of Cologne, on the Rhine. First American edition. Detroit, Michigan: C. Jung, 1877; pp. 109.

This pamphlet is not a complete treatise on the diseases of the nose, but an exposition of the author's views and methods of treatment as they have been formulated during a long practice. In the first place, he emphatically insists upon a thorough examation and justly denounces the slip-shod manner in which nasal affections generally are disposed of by physicians. The nasal cavity permit of an inspection of most of its parts as well as other cavities, and their diseases can successfully be treated only by local treatment under the guide of proper specula and good light. The treatment of chronic nasal catarrh by galvanocautery is considered by Michel superior to any other. He believes ozæna is a chronic purulent inflammation of the sphenoidal and ethmoidal cells, and fortifies his view by very plausible reasons.

This brochure was published in 1876; it was printed on inferior paper and presented in a very unfinished dress like all the continental pamphlets and periodicals. In this respect the American edition is far superior to its original. And this is all we have to say in its favor. It is a very unpleasant duty to condemn; but in justice to the author we are compelled to say

that the translation is a very unskillful and awkward reproduction of the original. The translator is utterly incapable of doing the work well, for two reasons, viz., he cannot construct a grammatically correct English sentence, and has no knowledge of medical matters. Every paragraph in the translation is an offense against English grammar; every page contains violations of orthography; every chapter is rendered unintelligible by the wrong application of words which convey a meaning different from that which Dr. Michel expressed in his original article.

The justice of this criticism may be estimated by a consideration of the following instances, selected from a large number of sentences: Page 19, "If the stage of muco-purulent secretion does not stop otherwise, then insufflations of nitrate of silver one part to twenty of talc., which is done by means of a strong glass pipette, one end of which is cut out shovel-like, so that the powder may be easily taken up—while the other end is curved so that the insufflation can be accomplished from through the mouth." We confess we had to consult the German text to understand this.

On page 15, we read *glandular bed* for *Drüsenlager* (a layer of glands); page 17 *tumor* for *Geschwür* (ulcer); page 30, *bluestone* for *Höllenstein* (solid silver nitrate); page 41, *cavities of the septum* for *Siebbeinhöhlen*, (ethmoidal cells); page 46, *spray* for *Spritze* (syringe); page 35, an *odorous* nose for *Stinknase* (fetid nose)! And on page 80 where Dr. Michel wishes to say that mercurial ointment (unguentum cinereum) should be used, the translator speaks of "embrocations of ciner salve (*ungt. ciner*—ash-ointment)"!

We are exceedingly sorry that we find so little to praise and so much to censure. But to make the translation intelligible it must be revised and re-written. F. C. H.

HANDBOOK OF THE PRACTICE OF MEDICINE. By M. Charteris, M. D., Professor of Practice of Medicine, Anderson's College, Glasgow; and Physician and Lecturer in Clinical Medicine, Glasgow Royal Infirmary. Philadelphia: Lindsay & Blakiston, 1878; pp., 225. Chicago: Jansen, McClurg & Co. Price $2.

This compendium is chiefly devoted to the symptoms, pathology

and treatment of those diseases that most frequently engage the attention of the practitioner. The work reveals its author as a physician of large attainments and experience, and possessing the rare capacity of briefly stating what is most essential to be known, relating to the different subjects of which he treats. The book will be valuable to students—for whose use it is especially designed—as it clearly outlines to them interesting subjects of investigation; and to physicians also, by refreshing their memories on points to which they may not for some time have given especial study.

The book contains a number of pages of formulæ; and a number of illustrations—one of especial excellence as explaining cardiac murmurs and the valvular action of the heart.

BOOKS AND PAMPHLETS RECEIVED.

A Manual of Nursing; prepared for the Training School for Nurses attached to Bellevue Hospital. New York: G. P. Putnam's Sons. 1878. 12 mo.; flexible cloth, pp. 143. Price $1.00.

St. Bartholomew's Hospital Reports. Edited by W. S. Church, M. D., and Alfred Wallett, F. R. C. S. Vol. XIII. London: Smith, Elder & Co. 1877. 8vo.; cloth, pp. 354.

A Practical Manual of the Diseases of Children, with a Formulary. By Edward Ellis, M. D., etc. Third edition. Philadelphia: Lindsay & Blakiston. 1878. 8vo.; cloth, pp. 385. Price $2.50.

Injuries to the Eye and their Medico-Legal Aspect. By Ferdinand von Arlt, M. D., etc. Translated, with the permission of the author, by Chas. S. Turnbull, M. D., etc. Philadelphia: Claxton, Remsen & Haffelfinger. 1878. 8vo.; cloth, pp. 198.

Cerebral Hyperæmia the Result of Mental Strain or Emotional Disturbance. By William A. Hammond, M. D., etc. Read before the New York Neurological Society (in outline), Nov. 5th, 1877. New York: G. P. Putnam's Sons. 1878. 12mo.; flexible cloth, pp. 108. Price $1.00.

What Am I? A Valedictory Address to the Graduates, delivered at the close of the Forty-first Session of the Medical Department of the University of Louisville, Feb. 28, 1878. By J. M. Bodine, M. D., etc. Published by request.

Are Eczema and Psoriasis Local Diseases of the Skin, or are they Manifestations of Constitutional Disorders? By L. Duncan Bulkley, A. M., M. D. Ext. Trans. International Med. Congress. Phila., Sept., 1876.

On the Recognition and Management of the Gouty State of Diseases of the Skin. By L. Duncan Bulkley, A. M., M. D. Reprint *Amer. Practitioner* Nov., 1877.

On the So-called Eczema Marginatum of Hebra (Tinea Circinata Cruris) as observed in America. A Clinical Study. By L. Duncan Bulkley, A. M., M. D. Read at the first annual meeting of the American Dermatological Association, Niagara Falls, Sept. 4, 1877. Reprint from the CHICAGO MEDICAL JOURNAL AND EXAMINER, Nov., 1877.

Bathing, Cupping, Electricity, Massage. A Comparison of the Therapeutic Effects of Bathing, or Cupping, or Atmospheric Exhaustion of Electricity in the Form of Galvanism and Faradism, and of Massage, in the Treatment of Debilities, Deformaties and Chronic Disease. By David Prince, M. D., of Jacksonville, Ill. Reprint *Amer. Pract.*, Feb., 1878.

Surgical Uses, other than Hæmostatic of the Strong Elastic Bandage. By Henry A. Martin, M. D., etc. Reprint from the transactions of the Amer. Med. Ass'n. for 1877.

Report on Heating and Ventilation. Prepared for the Trustees of the Johns Hopkins Hospital, Baltimore, Md. By John S. Billings, Surgeon U. S. A., 1878.

Report of the Department of Health of the City of Chicago for the year 1877.

BORAX AND NITRATE OF POTASSIUM IN SUDDEN HOARSENESS.—These two salts have been employed with advantage in cases of hoarseness and aphonia occurring suddenly from the action of cold (" La France Medicale"). The remedy is recommended to singers and orators whose voices suddenly become lost, but which by this means can be recovered almost instantly. A little piece of borax the size of a pea is to be slowly dissolved in the mouth ten minutes before singing or speaking; the remedy provokes an abundant secretion of saliva, which moistens the mouth and throat. This local action of borax should be aided by an equal dose of nitrate of potassium, taken in a warm solution before going to bed.—*Philadelphia Times.*

Summary.

Practical Medicine.

A Case of Thrombosis of one Coronary Artery. Dr. H. Hammer, of St. Louis. *Wiener Med. Wochenschrift*, Feb. 2, 1878).

The patient, a robust man of 34 years, had had various attacks of rheumatism since a year, and was at the time recovering from a severe attack. No valvular lesion existed. While he was sitting in a chair, collapse set in suddenly at one o'clock at noon. Called in consultation Dr. H., found him the next morning in collapse, but with undisturbed mind, pallor, cyanotic coloration of the skin and clammy sweat but *no* dyspnœa, cough or pain. Respirations 24 and pulse eight beats per minute. Percussion of lungs and heart and auscultation of lungs essentially negative. On listening to the cardiac sounds, the feeble but pure systolic and diastolic sounds were heard; each cardiac contraction lasting about a second, was followed by a vibrating sound of five seconds duration, referable to clonic spasm of the heart; after two seconds of absolute rest the cycle was repeated.

The sudden collapse, the cardiac symptoms and the absence of other causes induced Dr. Hammer to state the anti-mortem diagnosis as occlusion of one coronary artery—the first diagnosis of its kind. Death occurred after 19 hours.

The heart was found normal; of the valves, one, the posterior fold of the aortic semilunar valve, was altered. There were adhesions between it and the wall of the aorta and it was surrounded with endocarditic excrescences from which a clot extended into the right sinus valsavæ and thence down into the coronary artery.

SURGERY.

ANTISEPTIC INJECTIONS INTO JOINTS.—Dr. Fr. Rinne (*Centralbl. f. Chirurgie*, 1877, No. 49 and 50). The writer gives an account of 19 cases of the various forms of inflamed knee joints which were treated in this way: The skin of the knee having been thoroughly cleansed and shaved and washed with carbolic acid, while the carbolic spray is playing on it a large well-disinfected trocar is thrust into the joint. As soon as the free motions of the point of the trocar indicate that it has entered the articular cavity the stylet is withdrawn, and the contents of the joint are allowed to flow from the canula. Pressure by the hands upon the sides of the joint often facilitates the withdrawal of the fluid, if it is thick or mixed with clots of fibrine or blood. When the flow ceases, the articular cavity is filled to its utmost capacity with a watery solution of carbolic acid (3 to 5 per cent.). During this process flexion and extension of the joint is practiced, in order to drive the lotion into all the pouches and recesses, and to dislodge what coagula there may be in them. Then the acid is drawn off and the joint filled again; and so the filling is repeated, until the carbolic acid returns perfectly clear and without a trace of pus, blood or fibrine. The canula removed, the punctured wound is dressed with silk protective, and the whole knee covered with Lister's bandage. The leg thus dressed, is put upon a splint and left undisturbed the next 5 or 6 days. But the bandage must not be applied very tightly, for the injections of the acid are expected to produce an acute synovitis, which often is followed by an acute exudation into and a swelling of the joint. Now, if the bandage is tight, it will occasion much pain and necessitate a change of the dressing. The treatment after the sixth day depends entirely on the amount of reaction found in the joint. If there is no exudation or inflammation in the joint, slight pressure is exerted upon it with elastic bandage for two days, and then the patient is allowed to walk with the leg stiffened by a splint. If also then the exudation does not return, moderate movements of the joints are tried; and in two weeks the patient can be discharged cured. But, if on the sixth day, when the bandage is removed, the joint it found

distended by acute exudation, rest and compression by elastic bandages must be continued until this reaction has disappeared, to be followed by the same treatment as mentioned before.

By his clinical observations, Dr. R. is lead to believe that the following affections can be cured, or at least benefited, by the antiseptic injections: 1. Acute synovitis, with so large an exudation that the capsule is likely to break. 2. Sub-acute and chronic serous exudation. 3. The mixed forms of exudation—sero-purulent. 4. The traumatic hæmarthrosis.

THORACENTESIS BY ASPIRATION IN ACUTE PLEURISY.—Dieulafoy. (*Lyon Médical*, Dec. 16, 1877.) M. Dieulafoy gives the following *résumé* of the different papers which he has just published in the *Gazette Hebdomadaire.*

Aspiration in acute pleurisy is a simple operation, and absolutely inoffensive; it should be practiced with the needle No. 2, and the quantity of liquid withdrawn at a single sitting, should not exceed a thousand grammes (about a quart).

The accidents attributed to the operation are of different natures, and may be grouped in three classes:

The accidents of the third class, the so-called transformation of a serous liquid into a purulent one, are not imputable to the thoracentesis, for I think I have demonstrated that in that case it is a *natural evolution* of legitimate purulent pleuresy, and in no wise a transformation of the liquid.

The accidents of the second class, syncope, asphyxia, hemiplegia, due to indiginous or migratory clots in the heart or pulmonary vessels, or occurring under the influence of other causes (pleuro-pulmonary gangrene, general state of the subject), should not be placed to the account of the operation, since they are observed in the course of pleurisy before as well as after the thoracentesis, and since they occur from the fact of there being pleuresy, not from the operation.

The accidents of the first class, acute œdema of the lung, pulmonary congestion with or without albuminous expectoration, are the only accidents directly and truly imputable to thoracentesis, but these it is easy to avoid. In collecting all the accidents of this kind together, I have seen that they are always associated

with either the immediate issue of a large quantity of fluid, or with complicated pleurisies; hence the precept to limit the quantity of fluid withdrawn at a sitting, and to proportion it to the complications of the pleurisy.

The method of operating being fixed and invariable, there is nothing variable but the indications of the thoracentesis, and these may be stated in two words: The thoracentesis is *urgent* or it is *debatable*. The urgency cannot and should not be based on anything but the estimation of the quantity of liquid effused; in all other cases it is debatable; it is subject to the appreciation of him who follows the course and the nature, an appreciation, so to speak, variable with each new case, for few diseases have such irregular and indecisive turns as accute pleuresy.

THERAPEUTICS.

ACTION OF CATHARTICS. Dr. L. Brieger. (*Arch. f. Exp. Path., &c., VIII*, 4 *and* 5, 1878.)

Beginning with a recapitulation of the present state of the question, the author thereupon details his experiments made in Cohnheim's labaratory. Dogs were kept without food for 2 or 3 days, and then narcotized with morphine. Their small intestines were exposed, a certain length of them isolated by two ligatures; the piece included was washed by an injection of water and thereupon emptied completely. It was next divided into three equal parts by the application of two more ligatures. Into the two peripheral parts the drug was injected with a hypodermic syringe; the central portion was used for comparison. The gut was returned into its cavity and the animal killed after the lapse of 4½ hours.

A. SALINE CATHARTICS.

I. A one per cent. solution of sulphate of magnesium was absorbed after injection without reaction.

II. An injection of 5 grammes of a 20 per cent. solution of the same agent caused a distension of ligatured intestine with an alkaline fluid, containing mucous flocculi soluble in liquor sodæ. This fluid changed starch into sugar, and digested raw fibrine,

but not boiled fibrine or albumen. Microscopically, it contained mucous corpuscles and epithelium. The mucous membrane was pale and normal.

III. Similar results were obtained from solutions of magnesic sulphate (50 per cent.), sodic sulphate (saturated sol.) and sodic chloride (saturated sol.) Two grammes (½ ʒ) of the latter gave rise to 18 grammes of exsudation.

B. DRASTICS.

Half a drop of croton oil (dissolved in 2,5 c. cm. ether) filled the gut with 18 grammes of sanguinolent fluid.

Ext. colocynth dissolved in two grm. water had the following effect:

0,02 grm. No exudation, mucous membrane reddened. 0,04, bloody fluid, inflammation. 0,05, distension with bloody fluid. 0,1, diphtheritic inflammation of the mucous membrane. These fluids possessed the same properties, as those produced by salines, and contained besides a large number of white and red corpuscles, epithelium, and flocculi of mucus and fibrine.

C. LAXATIVES.

Calomel, infus. sennæ, pulv. rhei, ext. aloes, ol. ricini, were injected in variable quantities. The gut, examined after four to seven hours, was found *simply* contracted, its surface pale. The water used as menstruum had been absorbed, the oil and the other agents remained unchanged.

The author deduces from these experiments, that salines act by causing both transudation into the intestine, and increased secretion of the intestinal glands (since the corresponding fluid possessed the physiological properties of intestinal juice). The effect of the laxatives of class C must be accounted for by their power of stimulating intestinal peristaltic movements, and hence hastening the passage of the ingesta before the fluid part can be absorbed. The drastics, on the other hand, may also stimulate peristalsis in weak doses, while in larger quantities they cause an inflammatory exudation and hypersecretion.—(*Allg. Med. Central Zeitung*, 1878. No. 10 and 11.)

THE USE OF HYDROBROMATE OF QUININE IN DISEASES OF CHILDREN. Dr. Steinitz of Breslau. (*Allg. Med. Central Zeitung.*)

The author has used the remedy in an extensively prevailing epidemic of hooping-cough, giving it generally in a mixture composed of three to five parts of the hydrobromate in one thousand of syrup, the dose being a teaspoonful every two hours. In no case was it necessary to use any other remedies. The hooping-cough had in twenty-three cases lasted on an average ten weeks, and in fifteen others twelve weeks ; and in the use of the remedy the paroxysms became in the course of a week less frequent and milder. No after-effects upon the alimentary canal were discovered. Three deaths occurred, all in very weak and scrofulous individuals, in whom other complications were present. Dr. Steinitz takes the opportunity of remarking that he prescribed in several cases the extract of castanea vesica, which has been extolled as a remedy, but without good results.

He also used the hydrobromate of quinine in cases of spasms of the glottis. Three of the patients died after only a few paroxysms. The remaining six recovered. The medicine was prescribed as stated above, and was borne well. In all the six cases the attacks diminished, at times varying from the third to the fifth week, in intensity as well as in frequency ; and the duration of the disease was in no case longer than from four to six months. This result is satisfactory when compared with the previous course of the disease under the use of other medicines, such as bromide of potassium, oxide of zinc, valerian, and musk, none of which could be borne for several months together.

Dr. Steinitz has also given the hydrobromate of quinine in the dental convulsions of children, but cannot as yet speak of its efficacy in this malady. He regards it, however, as deserving a trial.

A NEW REVULSIVE.—Conturier. (*L' Union Médicale*, 22d December, 1877.)

Among the usual medicines there are few which render as much service as revulsives. Sinapisms are of daily use, and flying blisters, although reserved for graver cases, have also numerous indications. But there are many circumstances where the transient action of the sinapism does not suffice, and where we hesitate before employing the blister. We have then no other recourse than frictions with tartar emetic or croton oil, and

applications of thapsia. But these means are attended by inconveniences so serious, that we often hesitate to advise them. Tartar emetic produces an eruption which heals slowly and leaves indelible traces; hence, it has been generally given up. Croton oil and thapsia occasion intolerable itching, lasting a long time, and besides, often a painful swelling and a general eruption, and their action is slow to produce. If still employed, it is for want of better. Burgundy pitch is almost useless.

What is required to answer the purpose is an agent whose action is at once rapid and prolonged, and which provokes a sharp revulsion, without pain or itching. Does this agent exist? It did not formerly, or at least its properties were scarcely known, and it was not employed; but it certainly will be in the future. This agent is *pimento*, or rather its extract, which has just been made known by M. Lardy. It unites in effect, in the highest degree, the diverse conditions which we have enumerated. It acts with great rapidity, ten to twenty minutes, according to point of application and delicacy of the skin. Its action from the first is manifested by heat, slight smarting and redness. These phenomena increase for about three hours, then remain stationary, and the revulsive action continues as long as desired. However, after twenty-four hours in adults, and eight or ten hours in children, it is best to remove the plaster, or put another in a new place if further revulsion is desired. The heat and smarting caused are not painful, and do not hinder the patient from his occupation. There is no itching, and the action always remains localized. It may well be compared to that of mustard arrived at the half of its power, and thus remaining for twenty-four hours.

It may be seen from this brief exposition, what part may be drawn from this new revulsive in cases where a rapid and prolonged derivation is necessary; acute or chronic inflammation of the bronchia or throat, congestions of various organs, rheumatic pains, neuralgia, etc.

The color of the extract is beautiful red, identical with that of the dried fruit; when properly incorporated with some plastic mass, and spread on squares of paper, its application is easy. It is not necessary to heat it, as it adheres readily. When the parts

are subjected to movements, it may be held in place by a bandage. Its action is augmented by pressure. After removal, if desired, the heat and smarting may be relieved immediately by application of starch. Care should be used not to get it in contact with the eyes, lips, or nose, on account of the smarting caused by it in those regions.

The author is sure that all who try the new revulsive will be satisfied with it, as he has been.

THERAPEUTICS OF TETANUS.—(*Dublin Med. Press.*) Anonymous. — *Chloroform* has had an extensive trial; it has been administered in large quantities, sometimes with apparent success. Simpson narcotised a child for thirteen consecutive days, using ℥ 100 with mercury. But the general result is that while all the fatal symptoms disappear on the inhalation of chloroform, they return on its removal with unabated violence, and the disease generally lands them to its fatal conclusion without delay. *Chloral hydrate* has now taken the place of chloroform in the treatment of tetanus, but without more success. There appears to be great tolerance of the drug, and a case is quoted of a child of 12½ years who took more than 100gr. a day. Dr. Ballantyne, of Dalkeith, gave ℥ iij, in twenty-four hours, and ℥ vj. in five weeks, with success, the patient during this time being easily aroused to speak. It seems, however, to be a valuable drug in alleviating the symptoms. Its injection into the veins and its subcutaneous injection have not been so successful. *Calabar bean*, which, like chloral, affects the spinal cord, and has little or no action on the motor and sensory nerves, has been recently much employed. As with other drugs, its administration has been at one time apparently successful, and at another a perfect failure. It has, moreover, to be given in comparatively large doses. The spasms are controlled and the body heat sinks, and if the drug be withheld the paroxysms return, while if it be pressed the patient comes into a somewhat dangerous condition. A large dose is required to produce by subcutaneous injection contraction of the pupil, sometimes as much as ⅓gr. every two hours. There is not much to be said in favor of either *opium* alone, or opium combined with chloral; while *nitrite of amyl*, *bromide of potassium*, and *conium* have been alike tried in vain. A more

avor able report is given of *aconite*, the exhibition of which has been attended in some cases with remakable results. It lowered the pulse, which fell in one case from 135 to 60, with a simultaneous decrease of the convulsions; but the effects of the drug constitute in themselves a new danger which must be carefully controlled. Tendency to syncope, wakefulness, vertigo, dilatation and insensibility of the pupil; small, intermittent, and irregular pulse, and increased irritability of the nervous system are often the result of giving this remedy. The writer of the article referred to, believes that such a summary as he has given makes an appeal to pathology to throw fresh light upon this disease, and he hopes that some combination of these agents will be able to accomplish what each one of them singly has been found unable to accomplish.

We have no doubt that we shall one day find a remedy that is as really successful in the treatment of tetanus as the bromide of potassium has been found to be in some forms of epilepsy; but just as we are not indebted to pathology for the discovery of the therapeutic virtues of the bromide in epilepsy, so we are far from being sanguine that pathology will point out by-and-by the drug or combination of drugs which will cure the disease under consideration. In all probability the chemist or the botanist has already provided the remedy; and perhaps it remains for empirical experiment, rather than for physiology or pathology, to find it out.

Obituary.

Lundsford Pitts Yandell, Sr.

It becomes our sad duty to record the death of Dr. L. P. Yandell, Sr. Known as he was personally to many of our readers, and by reputation to all, they will receive the announcement sorrowfully.

Dr. Yandell died upon the morning of February 4th, after a short illness with pneumonia. He was born July 4th, 1803, and

was consequently in his 75th year when he died. He was a native of Tennessee, born near Hartsville, Sumner county. He was the son of Dr. Wilson Yandell, a native of North Carolina, and an eminent practitioner in his day. Dr. Yandell attended his first course of lectures in the Transylvania University at Lexington, his second course in the University of Maryland at Baltimore, where he graduated in 1825. In 1831 he was called to the Chair of Chemistry in the Transylvania College, which position he held for six years, when (1837) he came to Louisville and assisted in the organization of the Medical Institute, which subsequently became the medical department of the University of Louisville. He filled at different times in this institution the chair of Chemistry, Materia Medica, and Physiology. Associated with him in the faculty of the University were Caldwell, Miller, Drake, Gross, Austin Flint, J. B. Flint, Cobb, Bartlett, and other celebrities in American Medicine. He continued in the University until 1858, when he removed to Memphis, Tenn., and for a year or so was professor of practice in a medical school which was attempted there. During the war he was for awhile in the hospital service of the Confederacy. In 1862 he was licensed to preach by the Memphis Presbytery, and for awhile was pastor of a church in Dyceton, Tenn. Returning to Louisville after the war, he has resided here ever since.—*Louisville Medical News*, February 9th, 1878.

Dr. Edmund Randolph Peaslee.

Dr. Edmund Randolph Peaslee died on January 21st, at the age of sixty-three years, of pneumonia, contracted by exposure resulting from unusually pressing professional engagements. He was born in Newton, N. H., was educated at Dartmouth College and graduated in 1836. He graduated from Yale Medical College in 1840. During the following year he began the practice of his profession at Hanover, N. H., and also commenced the delivery of a series of lectures on anatomy and physiology at Dartmouth College. He became a professor of those two branches in 1842, and continued to hold that chair until the year 1870. In the year 1843 he was appointed lecturer on anatomy and surgery at Bowdoin College, and was professor of these branches of

education during the period from 1845 to 1857, when he gave up anatomy, but continued to act as professor of surgery until 1860. Dr. Peaslee was appointed professor of physiology and general pathology, in the year 1851, at the New York Medical College, and from 1858 to 1860 he accepted the professorship of obstetrics in the same institution. He was elected professor of gynæcology at Dartmouth Medical College in 1872, and at Bellevue Hospital Medical College in 1874. He practiced seventeen years in Hanover, and subsequently in New York. He published a work on Human Histology, and also one one Ovariotomy. His distinguished services in his specialty and his skill as an ovariotomist are well known.—*Boston Medical and Surgical Journal.*

Medical News and Items.

RUSH MEDICAL COLLEGE.—The Thirty-fifth Annual Commencement exercises of this college were held in the Jefferson Park Presbyterian Church, February 26th, 1878. After prayer by the Rev. Francis L. Patton, D.D., President J. Adams Allen conferred the degrees upon 129 gentlemen who passed their examination to the satisfaction of the Faculty, out of the 141 who originally entered the graduating class. One honorary and four *ad eundem* degrees were also conferred—133 in all. The charge to the graduates by the President was followed by the response on behalf of the class by Dr. A. C. Cotton, after which Prof. Chas. T. Parkes delivered the Valedictory address. We regret our inability to overcome Dr. Parkes' modesty to secure his address for publication.

The following are the names of the graduating class:

Arnold, Edward Dudley; Alford, James Simpson; Anderson, Jeremiah Allen; Abrams, James Henry; Brattain, Benjamin Franklin; Baldwin, Aristides Edwin; Bowman, Andrew Washington; Burnham, Alonzo Festus; Burlingame, John Henderson; Boyd, Robert Dempsey; Browne, Alfred Marshman; Brown,

Commodore Perry; Bergen, George Matthews, A. B.; Burton, Daniel Francis, B.S.; Barry, John Samuel; Butz, John Edmund P.; Bennett, Edwin George; Brainerd, Henry Green; Burhans, Orvis Mann; Boardman, Edwin Orlando; Boganau, Sau; Bates, Frederick Herbert; Bellus, George Wesley; Bullard, Francis Bascom; Bond, Arthur Grant; Currens, John Randolph; Carlton, Lewis William; Cotton, Alfred Cleveland; Culver, Jacob; Craig, Augustus Lessure; Cram, Fred Warren; Christiancy, Victor Hugo; Camp, James Leeworthy, Jr.; Dawley, George; Darrow, Edward McLaren; Dinsdale, James, A.B.; Dewey, James J.; DePuy, Ozias; Demsey, Cyrus Felix; Daniels, William Nehemiah; Eldridge, Frank Paris; Ford, Lyman Washington; Forhan, Thomas Joseph; Furber, William Warren; Fieldhouse, James; Ferris, Charles Leonard, A.B.; Garrey, John Eugene; Godfrey, Byron Benjamin; Glennan, Michael Augustine; Goldspohn, Albert, B.S.; Hicks, Levi Nevada; Hobart, Jefferson Roger; Hall, William Edward; Hall, Joseph H.; Hurd, Herbert Halsey, A.B.; Hathaway, Lawrence Bryant; Hardman, Charles; Hinde, Alfred; Hayman, Lucius Henry; Hewitt, Henry Miller; Irwin, Judson Deforrest; Isherwood, Hortensus Lowry; Johnson, Austin H.; Kelly, Elijah Stephens; King, William Henry Kane; Kemper, Phillip Amiss; Logan, John Augustus; Long, Charles Melville; Murphy, John Redfield; Murphy, William Thomas; Morse, Ashbel Henry; McHugh, Uriah Clay; Miller, Samuel Ross; Mailer, Andrew Caldwell; McCoy, Hiram Foster; Miller, Samuel Borland; Metzradt, Hans Von; McClelland, Robert Alexander; Mills, Aaron; Major, Elverton E.; Nolan, Emanuel Cross; O'Conner, John Chrysler; Patterson, Fred William; Porter, Epaphroditus Jehoshaphat; Pratt, Howard Lewis; Pritchett, Gilbert Lafayette; Phillips, James Henry; Park, Henry Hull; Pettijohn, Abra Claudius; Porter, Dennis Wilson; Porter, Walter Howard; Quinn, Edward; Rathbun, Isaac Hale; Rathbun, Addison Milton; Rakenius, Hermann; Reed, Charles Corneau; Reid, Duncan, Ph. B.; Robinson, Andrew Jackson; Rogers, Talcott Austin; Reynolds, Emery Eugene; Ryon, George; Rounseville, Albert Parker; Sansom, Joseph Emmet; Sage, John B.; Sether, Christian; Shaw, James Emmet; Stretch, Ethan McAferty; Smolt, Charles

Frederic, B. S.; Stuart, George; Sexton, Albert Germain; Sherwin, Frank Oliver; Smith, William Lloyd; Salisbury, Jerome Henry, A. B.; Scott, James Edwin; Stiver, William Bike; Thayer, Carmi Casander, B.D.; Wilson, William Dean; Webb, Benjamin Oliver; Wheelwright, William Simmons; Wheeler, Edward Newby; Wear, Isaac Newton; Watson, Colin Christopher; Weens, Elwood; Woodbridge, Windsor Pelton; Wadhams, Frederick Eugene; Whitney, Eugene Wolcott; Wolfe, Albert Polk; Young, Vincent Phelps.

Ad Eundem.—Dr. John E. Owens, Dr. Norman Bridge, Dr. James Nevins Hyde, Dr. D. J. Loring.

Honorary.—Dr. John Burgess Walker.

THE WOMAN'S HOSPITAL MEDICAL COLLEGE OF CHICAGO.—The Eighth Annual Commencement Exercises of this institution took place at the Clark street M. E. Church on Thursday evening, February 28, 1878. After an overture by Maj. Nevans' orchestra the exercises were opened with prayer by the Rev. E. P. Goodwin, D. D. After which the Degree of Doctor in Medicine was conferred upon the following ladies by the President, Wm. H. Byford, A. M., M. D.: Ellenora Stallard, of Iowa; L. Anna Ballard, of Michigan; Helen B. Boddson, of Illinois; Clara Louisa Normington, of Illinois; Augusta Max Hyacinth, of Illinois; Nannie A. Stevens, of Illinois; Lida E. Green, of Illinois.

The Valedictory Address was then delivered by Prof. Wm. E. Quine, M. D. Subject, Courage.

A very fine audience was in attendance and the exercises passed off in an unusually pleasant manner, and were closed by the Benediction by the Rev. Dr. Goodwin.

On the following evening a very pleasant reception was given the class by Dr. and Mrs Byford, at their residence, 908 Indiana Av.

The Summer Course of Lectures will open on Tuesday, the 2d day of April, and continue till July 1st, '78.

CHICAGO MEDICAL COLLEGE.—The Nineteenth Annual Commencement exercises of this college were held in Plymouth Church (Michigan avenue, near 26th st.), on Tuesday, March 5, 1878. After prayer, the Dean of the College, Professor N. S. Davis, distributed certificates to undergraduates for hospital and dispensary

attendance, awarded the college prizes, and conferred the degree of Doctor of Medicine upon the gentlemen whose names are subjoined. Professor H. A. Johnson delivered the annual address to the graduates, and Dr. M. S. Wylie responded for the class. Music was furnished by the organist, Mr. I. V. Flagler, and the Philadelphia Quartette Club. The exercises were concluded with the benediction.

Geo. B. Abbott, J. D. Andrew, R. H. Babcock, John S. Beers, B. F. Boyer, R. H. Broe, Wm. H. Byford, Wm. W. Cook, J. W. Dal, John Enlow, Wm. M. Farr, J. H. Fellows, Albert Green, A. J. Irwin, L. A. Irwin, D. L. Kenyon, Wm. R. Lawrence, M. S. Marcy, Jos. Matteson, Wm. H. McClain, J. W. McKibbin, J. E. McNeil, Geo. W. Moody, E. E. Moore, F. Mueller, Niels J. Nielsen, Frederic L. Nutt, W. F. Nye, Edward Pearce, N. Pierpoint, C. B. Richmond, C. J. Rivenburgh, Milton M. Rowley, J. L. Sawyers, John Schwendener, Henry C. Sibree, W. H. Smith, Wm. T. Speaker, Horace M. Starkey, L. A. Stearns, Ora F. Thomas, Frank E. Waxham, E. H. Webster, G. N. Wood, P. M. Woodworth, H. M. Workman, Mac S. Wylie.

Honorary Degree.—Emanuel Ridgway.

DISCREDITABLE PICTURES.—An illustrated paper is published at Hot Springs, Arkansas, designed to advertise certain hotels and regular (?) physicians. These latter favor the public with their counterfeit presentments, done in wood, and glowing tributes to their own powers. They are getting a well-merited scoring from the Western medical journals, and it is to be hoped their discipline will not end with that. Nothing could well be conceived more unbecoming and discreditable.—*Phila. Med. and Surg. Reporter.*

ANNOUNCEMENTS FOR THE MONTH.

SOCIETY MEETINGS.

Chicago Medical Society—Mondays, April 1 and 15.

Chicago Society of Physicians and Surgeons—Mondays, April 8 and 22.

CLINICS.

MONDAY.

Eye and Ear Infirmary—2 to 4 p. m., by Prof. Holmes and Dr. Hotz—2 p. m., Prof. Jones.

Mercy Hospital—2 to 3 p. m. Surgical, by Prof. Andrews.

Rush Medical College—1:30 p. m. Medical, by Dr. Bridge; 2:30 p. m. Dermatological and Venereal, by Dr. Hyde.

County Hospital—8 p. m. Necropsy, by Dr. Danforth.

Woman's Medical College—3 p. m. Surgical, by Prof. Owens.

TUESDAY.

County Hospital—1:30 p. m. Medical, by Prof. Lyman; 2:30 p. m. Surgical, by Prof. Parkes.

Mercy Hospital—2 p. m. Medical, by Prof. Hollister.

Eye and Ear Infirmary—2 p. m. Prof. Jones.

WEDNESDAY.

County Hospital—1:30 p. m. Ophthalmological, by Dr. Montgomery. 2:30 p. m. Gynecological, by Dr. Bridge.

Mercy Hospital—2 p. m. Eye and Ear, by Prof. Jones.

Rush Medical College—4 p. m. Diseases of the Chest, by Prof. Ross.

THURSDAY.

Mercy Hospital—2 p. m. Medical, by Prof. Davis.

Rush Medical College—1:30 p. m. Neurological, by Prof. Lyman.

Eye and Ear Infirmary—2 to 4 p. m. Operations by Prof. Holmes and Dr. Hotz.

FRIDAY.

Mercy Hospital—2 p. m. Medical, by Prof. Davis.

County Hospital—1:30 p. m. Medical, by Prof. Quine; 2:30 p. m., Surgical, by Prof. Powell.

Woman's Medical College—10 p. m. Ophthalmological, by Dr. Montgomery.

SATURDAY.

Rush Medical College—2 p. m. Surgical, Prof. Gunn.

Chicago Medical College—2 p. m. Surgical, by Prof. Andrews and Isham; 3 p. m., Diseases of the Chest, by Prof. Johnson.

Woman's Medical College—12 m. Gynecological, by Prof. Fitch; 3 p. m. Dermatological, Dr. Maynard.

Special Clinics daily, from 2 to 4 p. m., at the South Side Dispensary, and at the Central Free Dispensary.

For schedule of lectures at the colleges, apply to the college janitors.

THE

Chicago Medical Journal

AND

EXAMINER.

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VOL. XXXVI.—MAY, 1878.—No. 5.

Original Lectures.

PARALYSIS AND CONVULSIONS AS EFFECTS OF DISEASES OF THE BASE OF THE BRAIN.

DELIVERED IN CHICAGO, FEBRUARY 21ST, 22D AND 23D, 1878.

BY DR. BROWN-SÉQUARD.

(Reported for the Journal and Examiner.)

THIRD LECTURE.

GENTLEMEN: I have to-day, to treat at length, or at least, as far as time will allow, of three distinct points.

First, the basis that I can offer for the new views of paralysis and convulsions, caused by disease of the brain.

I have next to examine the diagnosis of disease of the brain cells from the new point of view.

In the third place, I have also to give the conclusions that can be drawn from the facts given in the two preceding lectures, as regards treatment.

And first, I have to speak of paralysis, and to examine the possible support of the views I have expressed. What I maintain is, that paralysis appears in case there is a destruction of

tissue in the part of the brain where there is disease, and that the consequent irritation of the cells of grey matter distributed in many parts of the brain, or in only a few parts, or perhaps also (and most likely), in some parts of the spinal cord, there acts on these cells so as to arrest their activity. This view, as you can easily understand, is very radical, and it was not without some hesitation that I put it forward for the first time a few years ago. But since then, facts have come to light which seem to give a clear and decided emphasis to these views.

On the other hand, the necessity of replacing the views which I think ought to be abandoned altogether, and which are now generally admitted, requires that for a time, at least, till we know better, we should have some theory to connect the facts and serve to promote further progress. You well know that in science, a theory which is in harmony with every fact that is known or developed, and not in contradiction with any, ought (if there is none better) to be accepted, at least temporarily. It may prove to be true, and it may prove to be completely the reverse; but for the time being, it ought to be accepted, because we need a theory for the development of our knowledge. Therefore, till I know that there are facts in opposition to the views that I have expressed, I think it is essential that these views be admitted at least by myself first, and if any one among my hearers feels inclined to accept these views, I believe they may serve till something better is found.

We find sometimes that an affection of the brain, of minute extent, having existed there for some time, but having given no manifestation whatever, will suddenly produce a paralysis. As we find, in the autopsy, that the lesion is very limited, and that there is disorganization of but a small part of the brain, we certainly must admit that something has irritated an organ, and thus produced paralysis. Otherwise, we could not understand how such a minute lesion could produce such a complete general paralysis. Now, put such a fact in the presence of another, such for example as I once observed in London. A patient was brought to me, as one attacked with general paralysis, and having certainly the characteristics of that affection; I detected (when he was leaving my office, where I had prescribed as if it

was a pure case of paralysis) that when his hand was brought to a certain organ, the irritation was considerable at that part; and on examination, I found that balanitis existed. Noting this, I examined further into the case, and found symptoms of paralysis of the brain. The symptoms were slight, and they were covered and crowded out by other symptoms. The treatment appropriate to that affection, the inflammation of the prepuce, was applied, and in less than a week the patient was radically cured. In that case there was external irritation of no considerable extent, and acting through the organ which has great power in certain individuals, on the brain. In that case we had a general paralysis, and if slight irritation can produce a slight paralysis, considerable irritation should produce greater paralysis.

I could mention a great many facts which show that in animals we can produce paralysis by slight irritation. I have already spoken of paralysis that consists of a loss of the action of muscles and blood vessels on one side, together with paralysis of sensibility in the opposite side, and shown that this may come from a prick of the posterior column of the spinal cord as well as section of the cord. It is not certain that destruction of tissue always produces paralysis; but it certainly comes through an influence exerted by irritation propagated through the cells so as to cause paralysis and other symptoms. It is the same in many of these cases in which, by affecting the sciatic nerve in animals, I have caused epilepsy, and have seen frequently after a division of the sciatic nerve, more or less paralysis of the abdomen and spine, and in each lower part on the same side. There is also, not always but in many instances, paralysis of the muscles above the place of section of the sciatic nerve, which receive no fibers from other nerves than the sciatic. But the most clear series of facts showing that we can produce paralysis by the mere irritation of certain nerves and certain parts of the nervous centers, is that in which, by a mere prick of certain parts of the *medulla oblongata*, symptoms of general and complete paralysis are produced, with loss of consciousness. The animal falls, as it were dead from the prick. The action of the heart is weakened; the breathing ceases completely. There is no appearance of life so long as you do not excite the skin, by means of which you can

produce reflex action, showing that the reflex power of the cord is not lost; but the power of the will is lost, and if you lift the limb it drops with complete loss of consciousness; the heart ceases to beat and death comes. There are many other features most interesting indeed, but which I have not time to dwell upon now. I will only say that changes take place to such an extent in the blood and other parts, that putrefaction may be delayed from 30 to 50 days after death, and that the body may be left in a room at a temperature of 70° for a long time without decomposition. Such facts show that not only paralysis may appear, but other phenomena from the arrest of the activity of the cells. If we study what takes place in man under similar circumstances, we find that phenomena more or less like these will ensue. There are instances where a single wound in a more sensitive part of the body, as in the hand or foot, has produced similar effects. In one case I saw such effects result from a mere prick. The patient was to be bled; the lancet had not gone in before the patient fainted away, the heart ceased to beat, and the limbs seemed to be dead. The patient was recalled to life with the greatest difficulty. Death would have occurred, if the most energetic means had not been employed immediately. So that paralysis, or this cessation of activity of the cells employed by the will, can ensue from causes in appearance trifling. These effects certainly render quite forcible the theory I have put forward; and what remains to be explained is this: Why is it that paralysis will appear in one part of the body with a given lesion in one person, and in another part of the body with the same lesion in another person? I have already stated that, according to the conditions of excitability of the various parts of the body, the effects of irritation starting from a certain part, will be extremely various, and in this we have the great cause of the difference between the effects in different individuals produced by a similar lesion.

As regards other facts which are in favor of the view which I have put forward, you will notice, if it is a case of disease of the brain, that the heart's action will be diminished considerably. There we have a clear case of inhibition or arrest of activity of certain nerve cells; we have a clear proof that the phenomena of arrest, or inhibition if you like to call it so, will come from

disease of the brain and proceed for days and days; and there are cases on record in which, for many months, the pulse rate per minute has been 30 or 40. We see therefore that, together with the propagation of paralysis in these cases, there exists the clear influence of arrest, which is similar to the propagation of paralysis itself. The objection to the view I have put forward, which would be based upon the persistence of paralysis after the lesion of the brain is produced, may be answered. In putting together what relates to the heart and what relates to paralysis, this objection falls to the ground; as we know that it is from arrest that the heart's action is stopped or considerably diminished. And if that phenomenon can persist for days, weeks and months from a certain cause, we can expect also that the same thing will take place from influences connected with cells in the brain or spinal cord.

But there are other arguments more fully in favor of the views which I have proposed. Every physician here, every student knows that two kinds of paralysis may appear in cases of brain disease, and no doubt may appear very frequently, when the disease is in the base of the brain especially. Those two effects consist in paralysis of the sphincter of the bladder and of the sphincters of the rectum. These sphincters may lose their action altogether. Every one knows that these sphincters are not kept active by the brain. They are kept active by the cells in the gray matter of the spinal cord. It is clear, therefore, that the arrest of action of those muscular fibres which pass to the two sphincters, must be due to arrest of activity of the cells which keep them in a normal state of tension. In these cases, therefore, we have clear proof that disease of the brain can produce arrest of activity of cells in the spinal cord, just as it can produce it in the nerve cells of the heart. Therefore we have something similar to what I believe to exist in the arrest of activity of cells in the brain and spinal cord, producing paralysis.

There is another fact of great importance and of some purport, which is that the reflex faculty of the spinal cord may be lost completely in cases of disease of the brain. There we have clear proof that the cells in the spinal cord, which are used no doubt with reflex power, lose their activity; and the influence which comes from the brain must come in the same way as that which

arrests the activity of the cells of the heart. We have, therefore, a number of facts showing that cells at a great distance from the brain—cells in the lower part of the spinal cord, as well as cells in the tissue of the heart—can lose their activity, can have their activity inhibited, as it is called, from an influence coming from the place where there is a disease of the brain. If so, we have something quite similar to what I suppose to exist in the propagation of paralysis. We have also in these facts which may be said at present to be numerous (they are very rare indeed, but I have collected a pretty large number of them, so that I am led to employ the expression "numerous"), we have facts, I say, which show that paralysis due to organic disease of the brain has disappeared more or less rapidly, and sometimes suddenly, the disease producing them still existing. In these cases, if we were not to admit that the paralysis was due simply to arrest of activity, we could not explain the phenomena. The array of facts is very large, in which it appears that a cessation of activity can be produced by mere irritation, and can disappear more or less suddenly, when the lesion, if it is a large one, persists.

Let us take what is known of amaurosis. A prick may produce amaurosis in some cases. On the other hand, we find in man, that amaurosis though appearing gradually and slowly in certain cases, has appeared suddenly, and in a few cases has disappeared as suddenly. The autopsy being made, however, the disease which produced the phenomena was still found to exist. Therefore we may admit that the activity of the cells in any part of the system may be stopped, may be arrested, may be inhibited for a time (it may be a very long time, or may be merely temporary) and be caused by an irritation in certain parts of the brain or other parts of the nervous system.

What now have we to say of the production of convulsions in cases of disease of the base of the brain? Convulsions in these cases have certainly something peculiar in their production. Indeed, in the study of the effects, either of the common forms of convulsions, chronic movements, epilepsy, rigidity, trembling or any kind of involuntary movement, when these disordered movements appear to result from disease in any part of the base of the

brain, we certainly find that the old views cannot be applied to explain the phenomena in a number of these cases. That we find irritation limited to a small number of fibers producing convulsions in the two sides of the body, is certainly true. We find that these kinds of disordered movements appeared in a great many cases on the side corresponding to that of the lesion. Whether the lesion is of the *crura cerebri*, or the *pons varolii*, we have something in complete discordance with what is admitted.

What about convulsions in these cases? As I have said, convulsions appear where motor fibers or motor centres are irritated, and the irritation is propagated by the cells of the nerves, acting upon this excitability so as to produce the phenomena of convulsions. If the cells of one part of the spinal cord or *medulla oblongata*, are more excitable than the cells of the opposite side, there will be convulsions; if the reverse, the convulsions will be on the other side. Indeed, I do not see that there can be any difficulty if you have this key or explanation, which consists in admitting that an irritation, starting from the place of the disease, proceeds to the parts so as to produce a morbid activity. If the cells are endowed with a power to produce movements, they produce convulsive movements, of one kind or another. We have, therefore, a common element, a common principle, which we may apply to the protection of these centers. In the two instances, according to the theory I propose, the irritation starts from a part where the disease is, and is propagated to the cells all about the system, and it may produce the one or the other effect. There is a similarity so far in the production of convulsions and paralysis in this respect, that in the two instances there is a common element of irritation starting from the place of the disease, and reaching the cells. When the cells are reached, then the variety may begin. If these cells are in a certain degree of excitability, which makes them lose the power of action, paralysis appears. If these cells, on the contrary, are excited like the cells of the spinal cord or *medulla oblongata*, and reflex movement takes place, the reflex movement occurs convulsively—either convulsion or stiffness or any kind of involuntary muscular contraction. It is exceedingly easy to explain the phenomena in

that way, and I do not know of any facts in opposition to these views. If you do, I should like to hear of them.

There is, indeed, one point, which I mentioned in the beginning of this lecture, which relates to the diagnosis of convulsions and paralysis, when their cause is in the base of the brain. It may seem to some of you that the new views I propose render diagnosis more difficult than before. But it is certainly not so. Indeed you can easily understand *a priori* that if the other views were wrong, they could not help the diagnosis; they must have been the cause of mistakes. It will be certainly a good test of these new views if we find the diagnosis become easier for those who admit them. Upon this point I will say that I have been able in some cases to form a diagnosis, which would have been a matter of extreme difficulty if the old views had been admitted. If we find, for instance, a series of symptoms, such as a slight paralysis coming on secretly and slowly, perhaps in the right side of the body, an arm or a leg, and, together with the paralysis, a very slow anæsthesia and some slight degree of rigidity, we are led to think there is disease on the opposite side of the brain. But if we find the face paralyzed in its motor action on the same side, if we find that the susceptibility of the face is diminished on the same side, if we find the eye is inflamed, we have then together with the other facts I have mentioned, and with those I have not mentioned, a very great probability that a disease exists at the base of the brain, which affects the trigeminal nerve and produces the effects which we know appear when we divide that nerve. If, besides these symptoms, there is also some deafness on the same side, and if there is some strabismus, showing that the sixth pair of nerves is paralyzed so that the eye is drawn inward, that is another reason for believing that there is disease affecting the facial and the seventh, fifth and sixth pairs of nerves. If these nerves are diseased on the same side, and the paralysis in the limbs exist on the same side, you must either admit that there are two lesions in that man, or, if you are ready to admit that the paralysis can exist on the corresponding side of the lesion, then you are ready to admit that one single lesion can produce all these effects. How can you be sure as regards this? By the complete absence of symptoms of any kind in a case such as that

I have mentioned, when the paralysis is on the right side. You may certainly admit that there are two lesions, as that would be in harmony with the facts. You might admit a lesion of the nerves I have mentioned, without affection of the base of the brain. But if the paralysis has appeared at the same time that the symptoms appeared in the nerves I have mentioned, and if the paralysis have progressed *pari passu* in the same ratio of increase, then it is certainly evident that there is only one lesion. Thus you can arrive at the diagnosis by admitting the views I have set forth. It is only admitting that paralysis may be produced by disease in the base of the brain, on the corresponding side, which is altogether in opposition to the views generally admitted.

I have not time to insist upon this point, but will say that, as regards the diagnosis of the disease in the base of the brain, physiology, such as we know it now, may serve to help the diagnosis immensely. Indeed, when the lesion is in any part of the base of the brain which contains the nerves of the third pair and last cranial nerve, originating from the *medulla oblongata*, if you state with the greatest care all the symptoms that may appear in the eye, ear, face, tongue or throat, you find the seat of the disease pretty readily; but if you are inclined to admit that convulsions can appear on the same side and paralysis on the same side; if you are ready to admit that the four limbs are convulsed from a lesion limited to one side of the base of the brain; and if you put these facts together with the facts which show what is the seat of the disease, then you can localize the disease—you can diagnosticate the seat of the disease pretty readily. But if you admit the old theories, you are at sea and cannot come at a diagnosis in those cases in which the symptoms of paralysis or convulsions are not in harmony with the admitted theories; so that with these new views diagnosis may be aided rather than hindered.

I now come to the last part of this lecture, and that is, what rule of treatment can we draw from these new views, or from the facts on which these views are grounded? I should like to have more time to deal with this topic. But first, I will say that I believe a new field of therapeutics has been opened, and one which promises to be of the greatest advantage, by the acquisitions of science within the last 30 or 40 years. If we take, for

instance, a case of convulsions, it clearly proves what I wish to explain. If we suppose, for instance, a case of disease in the dorsal part of the spinal cord, leaving a great part of the cord perfectly healthy, in such a case, as you well know, there are powerful convulsions. In such a case, simply treading on the big toe will stop the convulsions immediately. And by what mechanism is the rigidity stopped? It is quite clear that in such cases there is a morbid activity of certain cells, which are continually throwing off nerve force. If an irritation comes from the big toe, it stops that activity. It is similar to what takes place when we stop the action of the heart by galvanizing the pneumogastric nerve. I have no knowledge whatever that can explain why this is so; but I do know that certain parts of the body are endowed with powers which other parts do not possess; that an irritation in the sole of the foot, for instance, can produce reflex phenomena more powerfully than in other parts of the body. No doubt, in such cases, we have clear evidence that morbid activity of the cells can be stopped by mere local irritation. The same thing takes place in many cases of epilepsy. Muscular contraction, preceding the attack, and preceding the loss of consciousness, occurs. In many of these cases it is exceedingly easy to put an end to the attack, and to the loss of consciousness. Suppose it is the head that is first attacked; suppose the head is brought with great force towards one shoulder. In such case, if the head is taken hold of firmly, and brought strongly towards the opposite shoulder, the attack will cease, certainly in 19 cases out of 20, if the patient has not lost consciousness; but it is essential that the consciousness be not lost; for when it is lost, and the attack is on, I do not know of any means that can make it cease.

There are means of diminishing the force of the attack, such as pressure on the pneumogastric or the neck. It was thought that pressure exerted on the carotid artery, reducing the amount of blood flowing to the brain, was beneficial. That may have a little truth in it. But the greatest effect which comes from the cessation of the attack after it has existed, is produced through the influence exerted on the heart, by pressure on the *par vagum*. Convulsions, therefore, may be prevented, and a loss of con-

sciousness, and a complete attack of epilepsy may be prevented, by the mere action of certain nerves. When I first had a large field of practice in 1860, in London, I found in a number of cases in which there was muscular contraction and convulsions, that drawing on the muscles which contracted so as to elongate them, was generally sufficient to stop the convulsions; but I found also that it was not quite essential to do that, in many cases a mere bandaging of the skin was quite enough. In many cases the application of a ligature is sufficient. It is not because the ligature prevents something from passing, as was formerly imagined; but, on the contrary, because the ligature sends something to the brain. It changes the activity and stops the attack. So true is this, that the best plan consists in not applying a ligature in the ordinary way, but in applying a series of ligatures like handkerchiefs, and drawing them again and again over the surface, so as to irritate the skin. The ligature is not essential. All that is necessary is merely to bandage the part or to apply over it the cautery, or a piece of ice, or anything that can irritate the skin considerably and rapidly. It is quite clear, therefore, that when we stop an attack of epilepsy in this way, we produce an irritation, which irritation goes to the base of the brain, and there stops the activity of the cells, which morbid activity was preparing an attack of epilepsy.

As regards these phenomena of arrest, these inhibitory phenomena may be employed to prevent attacks of hysteria; also a good many other kinds of attack, such as catalepsy, or other convulsive phenomena of various names and forms. In these the irritation of certain parts can produce a cessation of the attack. As regards hysteria, pressure on the ovaries will increase the hysterical phenomena; but in some attacks of convulsions, pressure on the ovaries will stop an attack.

The other means of treatment which I have employed with great success, consists in raising the two arms of the patient over the head suddenly. That is quite sufficient sometimes. Any great irritation can succeed. But if you find a patient on whom the exercise of irritation is absolutely useless, do not give up the attempt, but adopt other means of counter-irritation, and you will have a great chance of being rewarded. It is most important

to preserve the patient from an attack, not because you save him from that attack merely, but because any attack of a nervous affection is the cause of after attacks, owing to the change in the circulation which takes place in the base of the brain. This is especially the case with epilepsy. Saving the patient from an attack of epilepsy is saving him from a series of such attacks. These views as regards the arrest of activity of the cells, so far as epilepsy is concerned, find confirmation in certain effects which have been observed as regards paralysis or other forms of cessation of activity of cells, as in hysteria.

Consider what relates to anæsthesia. For instance, a friend of mine found that the passage of the galvanic current in cases of anæsthesia would cause the anæsthesia to cease. Thus we have a proof that anæsthesia, although due to organic disease in some cases, and, as all theories have it, due also to destruction of tissue in part, yet there remains the power to perceive sensation in some degree, or we could not cure it so rapidly. In researches made by Prof. Vulpian, other cases have been found. The galvanic current has cured amaurosis. No other way of explaining these cures can be found except this, that amaurosis, as well as anæsthesia, is due to the arrest of activity of cells, and that the irritation which the galvanism produces, causes, in its turn, the highest activity of cells in the part where the disease is. This morbid activity of some cells is thus stopped by the activity of other cells. If the part where the disease exists is acted upon by the galvanic current, so that the cells lose their activity, then the bad effect ceases. We have a cessation of activity of certain cells in a morbid state, and, as a consequence of that cessation of activity, we obtain a return of the normal state of the cells, which were kept in abeyance by the action of the cells where the disease exists. Whatever this theory is worth, the facts are most interesting.

Since these facts have been published, others have been brought to the attention of the medical public, which had been studied with great care by Burke in Paris, but which had been rejected or which had not attracted attention. The other facts, since Prof. Charcot took them up, have become an important field of study. Prof. Charcot took the facts of Burke—facts showing

that the application of metallic plates on the skin have been sufficient to cure anæsthesia, and has shown that pretty much what was obtained by Vulpian by the galvanic current, can be produced by plates of metal—as a piece of copper or other metal. There are some patients who will be affected by gold, who will not be affected by copper; so that if you try experiments with these metals, you ought to try alternately gold and copper.

In facts of this kind it is quite clear that if we stop anæsthesia, it must be from the arrest of the morbid activity of certain cells. Now, what has been observed in these cases? As regards anæsthesia, as has been observed, there are other means of treatment, and the field has not yet been fully explored; but some of the facts which I have presented, and which are becoming more and more numerous, lead us to admit that in cases of paralysis due to brain disease, or disease of the spinal cord, the best mode of treatment by counter irritation consists in applying counter irritation over the spine or nape of the neck, but chiefly in applying the counter irritation to the limbs and especially the paralyzed ones—not exclusively to these limbs but chiefly there. I should say that Dr. Graves of Dublin, after having tried these means, adopted the theory that in cases of disease of the spinal cord, counter irritation ought not to be applied to the spine, but to the lower limbs. But I cannot accept his theory. When I took up the subject, I began in cases of locomotor ataxy, and applied counter irritation to the limbs, and I found that the means had the power to diminish the disease in a number of cases, especially when the disease had not extended to the grey matter and was not accompanied by paralysis of the centers, but only by ataxic movement. I applied a plaster to the limb, all around, about an inch and a half or two inches in width. If on the thigh, it must be only about one inch or one inch and a quarter. As you move down the leg, the shorter the circumference of the limb, the broader the band of the plaster should be. This circular plaster has an immense power. In the two cases where organic disease produces paralysis and when epilepsy exists without organic disease, pretty much the same condition of things exists. It is a change in the activity of the cells in the base of the brain or the spinal cord, which is produced by this peripheric irritation. There is no

doubt that all sorts of means of irritation have more power in these cases applied over the limbs and especially those which are paralyzed, than when applied to the head, neck or spine in any part of its length. Still you must not lose sight of the fact that from the *vaso-motor* nervous system of the head, arises the spinal cord on a level with the second or third vertebra, and then when you wish to produce a change in the circulation, you must apply counter irritation; and among the means of counter irritation most powerful to produce change, is ice applied over the skin—not in a bag. The bag is too thick. Anything interposed between the ice and the skin, diminishes its action. Ice applied four to eight minutes on the bare skin, is a means of great power.

Next to that the cautery, applied so as to produce a simple drying of the skin, is a good means. And you obtain this without giving rise to pain, or without having its application followed by pain. You obtain this result by the use of a pointed instrument used at a white heat. When applied at a white heat, and when the contact is made firmly and rapidly, there is scarcely any pain. Indeed, this very morning, a gentleman in this city, after being burned, was surprised to find that all was done, and was inclined to think I had merely tried to make him believe that it had been done. The application, in fact, is exceedingly easy. So slightly painful is it, that I have never seen a patient refuse it a second time after first receiving it. Among the means of counter irritation which may change the activity of the cells, these are certainly among the best, and in harmony with the theories I have put forward in this room. If we wish to change the morbid activity of the cells, no better means exist than applying irritation to the nerves of the skin in the parts which receive the nerves from the seat of the disease. But, as I believe that one side of the base of the brain has nerve fibers going to the two sides of the body, you may understand that I do not think it necessary to apply it to the paralyzed limbs. You may obtain success in applying it on the other side, as there is communication by the nerve fibers with the cells at the base of the brain, between the two sides of the body and the one side where the disease may exist.

But there are other means, and in the future when we pay more attention to what is taught by the power of arrest of activity,

the treatment of disease of the brain will have gained immensely. If we examine what remedies may have power in cases of paralysis, we find that the most powerful is that one which we know to be able to increase the reflex excitability of the spinal cord at the base of the brain. Suppose the cells which move the various parts of the body to be stopped in their activity. Suppose the inhibition has taken place, as I believe, when there is paralysis. In such case, according to the theory, the cells of grey matter in the spinal cord as well as in the base of the brain itself, have their activity arrested. The best plan, theoretically as well as practically, is to make use of those internal means that can increase the reflex excitability; and nothing is as good as strychnia for that purpose. But as regards the dose it must be such as to produce a decided effect. When, in 1814, Fouquier made the first use of nux vomica, when he studied its action in paralysis, he invariably gave doses which were able to produce stiffness; and he obtained a most wonderful success. He was a most reliable man, a professor in a school of medicine in Paris and a physician to Louis Phillipe, and he certainly deserved his high position for his accuracy in observing facts. Since that time two or three medical men have practiced the use of strychnia in cases of paralysis caused by disease of the base of the brain. Fouquier gave doses, which, for a long time, kept his patients in a state of almost constant stiffness. There is no danger in producing that stiffness. The patient may be frightened, but if he have confidence in you, you can give it without risk. I have placed my own person under the influence of strychnia in such cases for days, without any other unpleasant sensation except inability to move about for a time. There is no doubt whatever that strychnia, in large doses, has a very great power indeed in increasing the reflex faculty of the spinal cord against paralysis, in cases of disease of the base of the brain. As regards the dose, it is a question of constitution. So begin with a small dose—one thirty-second of a grain three times a day. Go on increasing the dose gradually. I have seen patients bear perfectly well two-thirds, or even three-fourths of a grain in a day. But these patients are rare. Generally stiffness appears when the dose rises to one-tenth of a grain, three times a day. It is essential, if the dose is not sufficient, to go on increas-

ing it cautiously. But you must be exceedingly careful, on account of the difference of dose necessary to produce a given result in different patients. In one case one-eighth of a grain may produce no effect, and yet a difference sufficient to increase the dose to one-seventh of a grain might produce an effect.

Therefore, the best plan is to dissolve a certain amount of strychnia in a large quantity of water, and go on day after day giving each day half a teaspoonful more. The measure must be accurate as otherwise there would be risk of producing too great effect. When you reach a dose producing stiffness, then go on measuring the same dose every day until the symptoms disappear. In some individuals such dose will be taken without effect; but it is exceedingly rare. There is no loss of power of the remedy and no increase. The old notion that strychnia increased in the system is in opposition to the facts. It is owing to the fact that, as I said, a moment ago, the addition of a minute quantity to a dose that produces no effect, will produce an effect. This has misled some persons. But I should like those among you who feel inclined to increase the dose, and who find that it can be brought up to two-thirds of a grain a day without producing convulsions, I should like those who might witness such a thing to be aware of the possibility that strychnia may not be as rapidly absorbed in the bowels of one person as in another. I had a patient who was taking nearly one grain a day without any special manifestation. I became a little nervous, and asked that the stools be sent to me. An examination was made by washing the stools with water, and then a frog was dipped in the water which had taken away simply a part of the strychnia. I found the frog to become tetanic, showing that there was strychnia in the stools. It proved that the absorption of the strychnia had not taken place in that case.

You may easily understand that a change might take place in such an individual, and after giving the strychnia for a time without any visible effect, suddenly there might occur symptoms which might frighten the patient, the family and perhaps yourself. The dose might be such as would endanger the life of the patient. It is, therefore, quite essential to test the stools, and ascertain whether or not the strychnia is absorbed.

I should like to dwell, gentlemen, much longer on this subject, but I regret that I must close. I have, therefore, only to thank the gentlemen who have been willing to listen to these disconnected sentences. I much regret, that by the necessity of curtailing, I have been obliged to pass important parts of the subject and to give assertions rather than demonstrations. But if, as I have some hope, the views that I have suggested are taken up by another man in the audience, I hope some good will come from the lectures. I have to thank you for your kind attention.

We note with pleasure in the *American Journal of Obstetrics* for April, 1878, a communication from the pen of the senior editor of the Chicago Medical Journal and Examiner. It relates to the question of the veracity of Dr. J. M. Rose, of West Winfield, N. Y., whose article entitled, "Four Successive Ruptures of the Uterus in the Same Patient," was first published by us in August of the year 1877. This paper has been extensively reproduced in Germany, France, Italy and Spain; generally with a protest against its acceptance as true.

Dr. Byford completely vindicates the reputation of our contributor, as a veracious and conscientious member of the profession.

J. N. H.

Long Nails in the Kingdom of Annam.—According to Lieutenant de Corbigny, literary men in Annam are known by the dimensions of their nails, which sometimes attain a length of twenty-five centimetres. The nail of one finger, however, is cut short, to enable its possessor to scratch himself—a laborious undertaking in all classes of that country. (*Le Tour du Monde*, Jan., 1878.)

Original Communications.

A CLINICAL STUDY OF MOLLUSCUM CONTAGIOSUM.

By George Henry Fox, M. D., of New York.

Based upon a paper read before the American Dermatological Association at Niagara, Sept. 4, 1877

The little soft pea-sized tumors, with constricted base, central depressed orifice and whitish curdy contents, which constitute the affection known as molluscum contagiosum, are so peculiar in appearance, that when once seen and recognized, they are not apt to be overlooked or mistaken when met with a second time. It is probable, therefore, that the affection, though comparatively rare, is familiar to every reader who has had much experience in the treatment of children, or in the treatment of skin diseases occurring in the adult. For a description, I will refer to text books, and devote the space thus saved to a fuller discussion of certain interesting features of the affection. I have been exceptionally fortunate in having had cases come under my observation, thanks to the kindness of friends in the profession, and now in looking over my notes, I find the following record of twenty-five cases:

I. A young woman. A single molluscum on forehead.

II. A young woman. Face studded with mollusca, pretty evenly distributed. Eruption bearing a striking resemblance to that of the pustular stage of variola.

This case was decidedly unique, and my recollection of it is vivid. The patient was seen by two able physicians in New York, and although the diagnosis of variola was not actually made, it was strongly suggested to both, as the case occurred during the extensive small-pox epidemic of 1874. Had this

patient been placed in a small-pox ward, I think any physician might have walked by her bed without discovering at a glance that it was not a genuine case of small-pox. The numerous, whitish, flattened tumors, with their central depression, bore a most striking resemblance, when observed from a short distance, to the umbilicated pustules of variola, and as the girl's face was naturally full and florid, the absence of redness and tumefaction was hardly apparent.

III. Girl, eight years old. Two mollusca on right side of chin. Thinks that she caught them from a little girl living in the same house, who had five, likewise on the chin.

IV. Lewis E., æt. 12. Thin and pale, although in fair health. Examined Feb. 5, 1876. Two mollusca near right nipple, a small one on the nipple, a small one over sternum, two on right arm, one on right shoulder, 26 on back (18 of which were to the right of median line), and one on abdomen. The tumors were first noticed two weeks ago, and vary, from pin-head to small pea in size. No itching nor sensation of any kind, unless irritated by contact of clothing. Feb. 19. A small molluscum noticed on dorsum penis.

This case was exhibited to the N. Y. Dermatological Society. It might be described as a general eruption of molluscum, similar to cases reported by Wilson, Zeissl, and Hutchinson. It is one of the few cases I have met with, in which the mollusca were not confined to a limited region of the body. These cases of general eruption have been supposed to result in several instances, from the use of the Turkish bath. Whatever the probability of such a cause may be, I must not omit to state that in my case the boy had suffered from scabies, and been subjected, without doubt, to an unusual amount of bathing. Several attempts at inoculation were made in this case, both upon the patient's body and upon myself. The expressed contents of the tumors were applied to scarified surfaces, or rubbed into the sound skin, and in some instances covered for a short time with a moist rag and bandage, but the attempts were without exception, unsuccessful. The tumors in this case were of unusually rapid growth, and displayed a tendency to speedy desiccation upon reaching the size of a pea.

V. Joanna E., æt. 5. A red-cheeked, chubby little girl. Examined April 8, 1876. Six or eight mollusca of varying size on left thigh, just above popliteal space. Affection began a year ago. During past week, a group of the larger ones inflamed, and a dark crust formed. Apr. 14. Noticed two small mollusca on left gluteal region.

In this case, as in others, there was no history whatever of contagion. Her little brothers and sisters, though playing with her by day and sleeping with her at night, had never been affected, nor had any of the neighbors' children. One sister had ordinary warts on her hands.

VI. Maggie C., æt. 14. Pale, thin, and in poor health. Examined March 24, 1876. A pea-sized molluscum just above inner canthus of right eye. Another small one just below inner canthus of left eye, one on right side of nose, and one on right side of chin. An eczema of both lids, with considerable thickening and marks where other mollusca have been. According to patient's statement, a dozen or more pin-head sized mollusca appeared about inner canthus of right eye, two months ago. An acute eczema resulted from pinching these, and, shortly after, a conjunctivitis set in.

This case, which was shown before the N. Y. Ophthalmological Society, illustrates an important clinical feature of the affection, viz., the tendency to severe conjunctivitis when the tumors are located upon the eyelids. Henderson, one of the early writers upon molluscum, relates a case in which the eye was destroyed.

VII. Wm. S., æt. 1. Examined July 18, 1876. Twenty or more mollusca of varying size scattered over the face and neck, one on dorsum of right index finger. First noticed three months ago. Have grown rapidly during past three weeks. The walls of several of the tumors exhibit a marked vascularity. The larger ones have assumed a dark red hue, and tend to ulcerate when scratched or picked. Mother has four other children, but there is no evidence of contagion.

VIII. Annie M., æt. 4½. Sept. 2d, 1876. Seven mollusca of varying size, two near the inner canthus of right eye, the others on chin, cheek, and neck. In May last had one beneath right oral commissure. A sister, æt. 7, had one at that time in a similar location, but no scar is seen at present. Two other children in the family are unaffected.

IX. Kate M., æt. 7. Examined Jan. 17, 1877. Small mollusca appeared eight months ago, on either side of chin and upon eyelids. Mother says the child used to play with another little girl, who had warts on her hands. Patient has now a small abscess over the outer canthus of left eye, also a small ulceration at outer extremity of right eye-brow, both abscess and ulcer showing where mollusca have undergone destructive inflammation, four mollusca on the chin, one surrounded by an inflamed areola, one highly inflamed and swollen, another partly destroyed and covered by a scab. A perfect one on the neck, and two small ones on wrist and thumb. A month ago, an older sister, aged 14, had four or five on left cheek, which disappeared suddenly, and mother says, without scabbing.

This case illustrates perfectly the tendency of molluscum to destructive inflammation, and the stages of this process.

X. Annie K., æt. 12. A girl of strumous constitution. Examined May

7, 1877. Has the remains of two or three mollusca on chin, existing either as an excoriation covered with a yellow crust, or as an indurated papule. They came only four weeks ago, but are already at too late a stage for recognition as mollusca. States that she had three on side of nose, which were squeezed out. Her brother, aged 7, has a molluscum on forehead. Another brother and a sister are unaffected, although they sleep four in a bed. A child of a married sister, who died last August at two years of age, had a number of mollusca around the eyes.

XI. Manfred H., æt. 7. July 7, 1877. Has a single pea-sized molluscum on the tip of nose. It is of two months standing, and has enlarged within past week. Patient states that a little brother had some around the eye about a year ago, which disappeared suddenly, and that a little two year old baby has now a few "specks," size of pin-heads, under the eye.

XII. Fannie W., æt. 1½. Examined July 7, 1877. Nearly one hundred mullusca beneath chin, varying in size. A bean sized tumor is caused by the close proximity of several. There are a few scattered on neck and breast, and about the eyes. An older sister has nothing of the kind. She lives next door to Annie M. (Case VIII.)

XIII. Mary Agnes R., æt. 10. A weak strumous child. Examined July 9, 1877. Two ulcerating mollusca upon neck, small ones on chin. A red spot on breast where one came 6 months ago, and disappeared by ulceration a month ago. Has four warts on the left hand.

XIV. Mary T., æt. 8. Ten or twelve mollusca on chin in differen stages of development and decline. Several are minute, two are typicalt and two consist merely of blackish scabs upon an inflamed base. According to the mother, her three brothers are unaffected, and no children residing in the same house have had anything like it. Before the mollusca made their appearance six months ago, the child had seven warts on right middle finger. Whether these were mollusca or ordinary warts, the mother can not positively say.

XV. Edward C., æt. 6 months. Ten mollusca on right temple, two of which have coalesced, five on scalp, one on left ear, two on left temple, one on shoulder, one on left hand, all of two months standing. A brother who died a year ago, had the same. A little girl in the same house has one that has recently come on forehead, but four of Mrs. C's children are free.

XVI. Ellen McK., æt. 7 months. Two mollusca upon scalp, one on the ear and two near eye. There are eight families living in the same house, with a full quota of children, but no history of contagion. The mother has warts on her hands, and says she has always had warts since a girl.

XVII. Joanna H., æt. 21 months. A pale and sickly infant. Three mollusca on chin, and marks of three more which have existed beneath the chin, two near right eye. Has had them four or five months. Those which disappeared became of a dark red hue and withered. The child has a wart on its finger. Three other children in the family are unaffected. One of them however, has warts on the hand.

XVIII. Jessie McD., æt. 2. A fat and red-cheeked child. Five small mollusca around the mouth. An inflamed one, of pea size, on left side of

bridge of nose. These were noticed four months ago. About a year ago, the child had a wart on fore-finger, of which a red cicatrix remains. Mother thinks it was an ordinary wart, and not like the mollusca now on face. No history of contagion.

In the cases thus far given, the mollusca have been found to occur mostly upon the face. In the remainder of my cases it will be noticed that the eruption occurred solely upon the genitals. Molluscous tumors of this region have been regarded by some as differing from those upon the face and elsewhere, and the term condyloma subcutaneum has been applied to them. There is, however, no ground for any such distinctive name, as the molluscous tumors, wherever occurring, are identical in anatomical structure and external appearance. To be sure the genital tumors occur mostly in adult life, while the facial tumors are usually met with in infancy and childhood, but that mollusca may occur on the adult face, is shown by Cases I. and II., while Case IV. proves that it is not impossible to find the affection upon a juvenile penis. Though regarding these mollusca as identical in nature, irrespective of location, it will be found convenient in arriving at statistics relative to sex, age, etc., to separate them into two clinical classes, as follows: A, molluscum affecting the face and body, and commonly occurring among children. B, molluscum of the adult genitals.

XIX. An Italian patient in the Ven. Dept. of the New York Disp., with about fifty mollusca upon anterior half of penis. Two at the peno-scrotal junction. They were of two years standing, and easily destroyed by incision and cautery.

XX. Another Italian, with gonorrhœa. Two large mollusca of one year's standing, had coalesced on right side of sheath of penis, over the corona, on right thigh was another molluscum, corresponding in situation to the former, when the congested penis was placed paraliel with the thigh. This position of the mollusca suggested the idea of auto-inoculation, such as is occasionally observed in case of chancroid.

XXI. Gustavus B., æt. 18. Examined September 14, 1876, when patient applied with gonorrhœa, venereal warts, and a papular syphiloderm. Three months previously, and before any of these troubles began, he noticed five mollusca on the posterior half of the dorsum penis, which still remained unchanged. Six months previously, some large, so-called, "seed warts," came upon the back of his right hand.

XXII. Edw. D., æt. 21. February 5, 1877, patient applied for treatment of a stricture. About 10 small mollusca were situated upon penis and edge of mons veneris, varying in size from a pin's head to a grape seed. First

noticed them two months ago, since which time they have steadily increased in size. They itch a little, and once he made one bleed.

XXIII. J. L., æt. 24. Patient with chancroid and gonorrhœa. Has had four or five mollusca on penis during past year. A small one now on dorsum, which came four or five weeks ago. One on right thigh near base of penis. Had warts on hands a year ago.

XXIV. Wm. S., æt. 20. August 13, 1877. A small molluscum on dorsum penis over the glans. Says he pinched a large one off last week which had existed for several months. A wart on right little finger. Has had a half dozen or more within as many years. A few moles on body. An epithelioma was removed from the left side glans penis by Dr. F. N. Otis, at the Coll. of Phys. and Surg., last May. At the point where an inoculation was made upon the right breast, there is now a small, oval, reddish, hard lump, suggestive of incipient keloid.

XXV. Jno. G., æt. 22, October 19, 1877. A small molluscum on right thigh opposite scrotum. Came a few weeks ago after some moist papules on scrotum and penis. A small wart on thumb has existed over a year. Formerly had larger ones.

As to frequency of occurrence, molluscum may be said to be a rare affection. Those having charge of juvenile asylums or clinics for diseases of children, are far more likely to meet with cases than those who treat skin diseases in institutions mostly attended by adults.

According to statistical tables prepared by White, the affection occurs about once in every thousand cases of skin disease, whether in dispensary or in private practice. And yet the affection is without doubt far more common among the poorer classes than it is among the well fed and cleanly patients met with in private practice. This seeming paradox is made clear when we reflect that among the wealthy, every case of molluscum is presumably seen by the physician, while among the poor, a large precentage of cases are only driven to the dispensaries when the tumors become a source of discomfort or excite apprehensions of danger in the minds of the parents.

While one case is found among a thousand patients, old and young, who apply at a clinic for skin diseases, a much larger number will doubtless be found among a thousand children who apply at a clinic for children's diseases, especially if the affection is sought for, and not merely noted when complaint is made. As to the relative frequency of genital molluscum, it may be said to occur also in the ratio of one in a thousand. At least, the seven

cases reported above, were the only ones observed in as many thousand men whose genitals I have had occasion to examine in the male venereal department of the New York Dispensary. In none of these six cases did the patient apply for relief on account of the mollusca, these being treated incidentally, and in no case did I succeed in eliciting any history of contagion. As is well known, the affection occurs likewise upon the female genitals, and, for all I know to the contrary, with about an equal frequency.

Confining our attention now to the eighteen cases constituting the first group, we notice that five were infants, eight between the ages of three and ten, while five were older. As to sex, fourteen of the eighteen were females. This accords with a statement which has been made that the affection is more common among girls. In sixteen of the cases, the face was affected either alone or in connection with neighboring parts. The boy (Case IV.) had mollusca on body and on penis, but none on the face. The girl (Case V.) had mollusca only on the thigh.

Occurring upon the face, the tumors exhibited in many instances a tendency to congregate about the eyes, and occasionally about the mouth. The chin and neck were far more frequently affected than the cheeks or forehead. In a few of the cases the tumors were exceptionally located upon the ears, scalp and tip of nose.

There is one point connected with these cases of molluscum, to which I wish now to call attention, and that is the relation which this affection may possibly bear to ordinary warts.

In examining some of the more recent cases I was struck by the frequent co-existence of warts upon the hands of the patient or upon some member of the family. This I at first regarded as an insignificant coincidence. Later, in reviewing for the first time the notes of my cases, I was again struck by the numerous references to the co-existence of warts. In eight of the twenty-five cases, I find that I have noted the presence or past occurrence of warts upon the hands of the patient, while in four other cases mention is made of some playmate or member of the family being affected.

Had my notes of these cases been full instead of brief, or had

I examined patients with reference to this point, I think it probable that I should have noted the existence of warts in many more cases. Certainly in the few cases which I have examined since the idea of looking for warts occurred to me, I have not failed to find them in a single case. My friend Dr. Morrow, who has examined a number of molluscous children, tells me that he has noted warts on the hands in over three-fourths of the cases. Of course, warts are very common upon the hands of both young and old, and there is no reason why they should not co-exist with any skin affection. Nevertheless, in the cases I have reported, the co-existence of warts with molluscum would seem too frequent to be accidental, and I trust that any reader who may have an opportunity of examining many cases of molluscum will not neglect to note the existence or the non-existence of ordinary warts.

The etiology of molluscum, in spite of all that has been written, remains obscure. Although it occurs with much greater frequency among the poorer classes, it can not be considered as the offspring of poverty and uncleanliness. Damp and crowded dwellings may favor its development, as I have known a number of cases to occur in the same locality, and found by examination that direct contagion was not a probable cause. Ill health, though it may invite the morbid growth, is not always a factor in its production, for while most of the children I have seen were strumous or weakly, there were some upon whose faces not even the dirt could conceal the glow of health.

To explain the unexpected appearance of mollusca, verrucæ,

[NOTE.—With a view to determining the percentage of children who are afflicted with warts, my friends Dr. E. P. Williams and Dr. W. S. Conover, both of whom have charge of children's clinics at the New York Dispensary, were kind enough to examine for me 200 of their little patients, and the result proved that 30 out of the 200, or 15 per cent., were affected with warts. Dr. Conover examined 50 boys and 50 girls, ranging from 2 to 13 years of age; 8 girls were affected and 5 boys, and one little girl, who had mollusca upon the face showed the remains of a wart upon the finger. (See Case XVIII.) None of the 100 children had had warts previously according to statements of mothers, and of 4 cases where warts were reported as affecting other members of the family, 3 are included in the 13, showing perhaps a family tendency Dr. Williams also examined 50 boys and 50 girls of a similar age, and found that 13 boys were affected and only 4 girls. One of the boys who presented 16 warts belonged to a family in which 6 other members were reported either to have or to have had warts. Of the 83 cases not affected, 19 are reported to have had warts previously. In an examination of over 200 adult males in the venereal department, I found that 23 per cent. were affected with more or less marked papillary growths upon the hands, while a number of others presented slight callosities, which upon dirt-begrimed digits are often difficult to distinguish from warts.]

and other innocent excrescences, we must admit on the one hand, an idiosyncracy or diathesis on the part of those affected, or on the other hand, a contagious principle.

The contagiousness of molluscum has long been the subject of discussion, and as yet the question is by no means settled. Let us now examine the data upon which any decision of the question must be based. Bateman's first case (1817) was a young woman whose face and neck were thickly studded with mollusca. "She ascribed the origin of this disease to contact with the face of a child whom she nursed, on which a large tubercle of the same sort existed." Two other children and a servant of the family were likewise affected. Upon these facts Bateman assumed a contagious element, and embodied the assumption in the name molluscum contagiosum. Caillault reports that a child was attacked by molluscum in one of the wards of the Hôpital des Enfants at Paris, and within three months, 14 of the 30 little girls in the ward were likewise affected. These facts, and other similar ones to which we all can testify, support an hypothesis that the affection is contagious, but they furnish no conclusive proof. In many instances of the affection, we find neither evidence nor even hint of a contagious nature. It seems to have a spontaneous origin in a given case, and the children who play with, sleep with, and wear the clothes of the patient, remain free. There may, indeed, be a parasite or other contagious element, but has its existence been demonstrated? No. The simultaneous or successive occurrence of several cases in a hospital ward, a tenement house, or a single family, though possibly due to contagion, may be explained upon other grounds. The strongest argument, however, in favor of a contagious nature, rests upon the statement of Retzius, who claims to have inoculated the growth upon his own person. Many others, it is true, have tried this, and failed, but no argument can be based upon such negative results. Here then, the case rests, and until the inoculation by Retzius has been repeatedly verified, or until a parasite or germ of some kind has been demonstrated, or until some further facts have come to light, we can not say positively that molluscum is or is not contagious.

If contagious, the affection can not, as far as degree is con-

cerned, be ranked in the category with scabies and ringworm. It seems to me, in this respect, to warrant a comparison with verruca. I do not know what the opinion of my readers may be, as to the contagiousness of ordinary warts. Many people certainly believe them to be "catching," and children, when afflicted, will often point out the very boy from whom they allege to have caught them. The text book writers pass lightly over, or are silent on this point. Tilbury Fox says, in speaking of warts in general, "they appear sometimes to be contagious." The same remark might be applied to mollusca, which "appear sometimes to be contagious." There are other points of resemblance in the clinical aspect of molluscum and verruca, which may have more than a fanciful interest. They are both apparently of local origin, and attack both the robust and the weak. They are alike in their uncertain etiology, and their indefinite duration, and finally they possess in common, that strange peculiarity of suddenly disappearing from no apparent cause. Considering then, these points of resemblance, and the frequent co-existence of the two affections, it seems to me, as I have already remarked, that the relation between molluscum and verruca is a subject worthy of investigation.

DOES ACUTE GENERAL DROPSY EVER OCCUR AS AN IDIOPATHIC DISEASE?

By J. A. Goldsberry, M. D., Annapolis, Ind.

Dr. Flint says that "dropsy is always dependent on some antecedent morbid condition; that it is never a primary affection; that it is, in fact, not a disease, *per se*, but only a symptom of disease."

Dr. Hughes Bennett says "that serous effusion, or dropsy, is always indicative of mechanical obstruction to the return of the blood from the capillaries through the veins." So far as I have any knowledge, this is the theory taught in all our text books on disease, and the belief of the profession generally. Of course it is no purpose of mine, in what I may say, to call in question the

fact, long since established by competent observers in the field of pathology, that acute dropsy, as a rule, is wholly symptomatic, and that it occurs as a result of some antecedent diseased condition. But the questions I would ask in all candor, and which I would be pleased to have answered to my entire satisfaction, are: Does it *always* depend upon mechanical obstruction? Does acute dropsy, characterized by general anasarca, always depend on that condition of the kidneys known as desquamative nephritis? Is it not possible, or indeed quite probable, that, now and then, the disorder may be, in every sense of the word, a disease; that it may exist as a primary or idiopathic affection, and that many of the cases of acute albuminuria, so-called, are not albuminuria, do not originate in renal disease, but have their origin in, and are dependent upon, some general constitutional irritation?

It is, perhaps, not very difficult for us to understand why serous effusion should be a prominent symptom in true acute Bright's disease, nor why it should exist in the chronic form of that affection, when the functions of the kidneys have become seriously impaired by destructive structural changes. Nor is it a fact difficult of solution that dropsy *may* follow, sooner or later, organic disease of the lungs, heart or liver. But when we come to treat of dropsy as an idiopathic disease, we confess that the serous transudation is not so easily accounted for. Is it certain that disease may not sometimes be mistaken for symptoms? and does it necessarily follow, because the pathology of certain morbid phenomena cannot be clearly made out, that therefore disease is not present? Certainly not. As already remarked, the profession may be said to be almost a unit in the belief that acute general anasarca is of renal origin, that it is absolutely the offspring of diseased kidneys.

But what is the nature of this disease? What are some of its pathological characters? Johnson tells us that it is an "acute inflammation of the membrane lining the convoluted tubes, and as a result, a prominent feature is the desquamation of the renal epithelium," hence the appropriate name, *Acute desquamative nephritis.* He regards the secreting cells as the primary seat of the local morbid disorder. "The obstruction of the tubes and the loss of the secreting cells, lead to the transudation of serum,

causing the albuminuria, and to the deficient elimination of urea, causing, in some instances, uræmic poisoning. The diminished density of the serum from the loss of albumen, together with the embarrassment of the capillary circulation from the retention of urinary principles, occasion the dropsy."

It is not necessary that I should refer to the anatomical changes presented by the kidneys, nor that I should detail the chemical history of the disease. I speak specially of one prominent feature or symptom, which, so far as I know, is invariably present, a symptom, by which, in every instance, the affection is characterized—I allude to the presence of albumen in the urine. In speaking of the disease in connection with albuminous urine, Flint observes, "The urine is found to contain albumen, usually in considerable, and frequently in great abundance."

Geo. B. Wood says, "The urine is highly albuminous; in some cases so abundant in albumen, that it is converted by the coagulation of that principle, into a uniform jelly; and the deposit, upon standing twenty-four hours after coagulation, seldom occupies less than one-third of the bulk of the fluid."

Roberts goes farther still, and declares that in some cases albumen may be present in such enormous quantities, that "the urine becomes quite solid on boiling."

Bearing in mind then, that acute dropsy, depending upon desquamative nephritis, is albuminuria; that in no case can the disease occur, whether it come up as a result of diseased kidneys, or as a sequel to some other morbid condition, without the presence of albumen in the urine, how are we to account for the cases of acute general anasarca or dropsy, so frequently met with, which are not characterized by the presence of this principle in the urine, and cannot therefore be of renal origin? It is a fact well known to every observant physician, who has had more or less experience in the treatment of scarlatina, that one of its most frequent sequels is general dropsy, and if we would accept the teachings of our books, we must believe that the serous effusion in these cases, is caused by vascular mechanical impediment, and that that impediment depends, primarily upon albuminous nephritis; in other words, that in scarlatinous dropsy we have precisely the same pathological condition of the kidneys which

obtains in acute albuminuria. My own experience with the dropsy of scarlet fever has been limited, and as some of the main points in the clinical history of the cases, of which, from first to last, I have had control, were not regularly noted, I cannot speak with positiveness as to the character of the urine. But in this connection I am fortunate in being able to call attention to authority which, to say the least, is, I think, entitled to our respect and earnest consideration.

As far back as 1814, Dr. Blackall, an English physician and author, reports in his "Observations on the Nature and Cure of Dropsy," the following cases:

"Case 1. M. T., æt. 12, was just recovering from scarlatina, in which the inflammation of the skin had been severe, and the bowels unusually relaxed. On the evening preceding my visit, the ankles and knees had begun to swell. There was a considerable degree of languor and loss of appetite; a quick and weak pulse; pain of the left side; a loose state of the bowels and swelling of most of the joints, particularly the knee, in the large bursa mucosa, above which there was very evident fluctuation. The urine was rather scanty, pale and without sediment. It was coagulable neither by heat nor nitric acid. True dropsical symptoms succeeded rapidly.

In less than a fortnight she became universally anasarcous, and there was fluctuation of water in the abdomen, with orthopnea and frightful dreams. At length she spent several successive nights in her chair, unable to lie down. It was impossible to entertain any doubt of the presence of hydrothorax. During the whole of this time the urine, examined daily, gave no appearance of coagulum. She finally made a complete and rapid recovery by the use of smart purges of jalap and scammony and Peruvian bark.

"Case 2.—S. S., æt. 45, Devon and Exeter Hospital. Considerable anasarca, with a feeble pulse and loss of appetite; urine pale, rather scanty, not coagulable by heat or nitric acid and depositing no sediment. Six weeks before, she had been attacked by fever and a scarlet eruption, to which her dropsical symptoms had succeeded in a few days. She derived immediate advantage from bitter infusions and alkaline salts and soon recovered."

Referring to these cases of Blackall, Royer says: "I have

known many similar ones, but as none have died, I have been uncertain as to the cause or mode of production of the dropsies." The existence of scarlatinal anasarca, independent of diseased kidney, is emphatically asserted by Barthez and Rilliet (see Traité des Maladies des Enfants) who state that they "have seen one fatal case, and established not merely by investigation during life, but also by examining the glands themselves after death, that the kidneys were not affected." Becquerel and Rodier insist that cases of dropsy following scarlet fever without albuminous urine are not rare." In the Dublin Medical Press for 1866, three cases of scarlatinous dropsy without albuminuria, are related by Dr. G. S. Smith. Dr. Stiebel, a distinguished German physician, states that he "has seen more cases of scarlet-fever dropsy without, than with albumen. If the average of observed cases of scarlet-fever dropsy be taken, it will be found that in not more than one-third of the cases is albumen present." Dr. Niemeyer, than whom there could perhaps be no higher authority, says: "The second form of scarlatinous dropsy, not accompanied with albuminuria, is a sequela of scarlet fever, as free from danger as it is inexplicable. It generally develops gradually, may become very extensive and is not limited to the subcutaneous cellular tissue. In some cases of scarlatinous dropsy without albuminuria, recovery takes place in a remarkably short time, as I know from personal experience." According to the testimony of authority already quoted, we may have, very rarely however, cases of albuminous nephritis, following scarlet fever, without dropsy. Simon says (see Simon's Chemistry, American Edition), we have dropsical symptoms with albuminuria, dropsical symptoms without albuminuria, and albuminuria without dropsical symptoms. Referring to dropsy in connection with scarlatina, and the facts above stated, H. C. Wood, in the *Am. Journ. of the Med. Sci.* for 1870, gives it as his opinion that inasmuch as it is established "that either dropsy or albuminous nephritis may exist alone after scarlet fever, but are in the vast majority of cases associated together; that either may precede the other; that they are often simultaneously and rapidly developed after exposure to a sudden malign influence—it follows, he thinks, that neither is the cause of the other, but that they are both the results of a common cause—a common irri-

tation." In the opinion of many, this theory doubtless would be open to criticism, but it seems to me that there is something rational in it and altogether consistent with the principles of pathology. I come now to speak of acute dropsy as a primary affection—as an idiopathic disease, if the term be preferable; and in doing so, I will summon to my aid facts obtained from the clinical experience of others who are much more competent to speak upon the subject under consideration than myself. Dr. Edward J. Seymour, writing as long ago as 1837, (see The Nature and Treatment of Dropsy), pretty accurately describes the most prominent features of the affection. His language is as follows:

"In some cases, after sudden exposure to cold and wet, the whole cellular membrane becomes infiltrated, the swelling is hard and tense, the pulse hard, the urine scanty and incoagulable by heat or acids, the heart beats without symptoms of organic disease though its action be increased, the bowels are costive, the effect likewise follows very rapidly on the cause applied; the patient's health has been good. There is in this state a general feverish excitement. The cure of this form of disease will generally be perfected in about ten days."

The following case was published, with clinical remarks, by Dr. W. R. Basham in the *London Lancet* for 1867. More reliable authority on any point relating to dropsy, it would, perhaps, be difficult to find.

"R. H., æt 26, admitted to hospital January 22. About a fortnight previously, having been exposed to wet and cold, he had chills, pains in limbs and fever and, a morning or two afterwards, suffered from difficult breathing, with swollen, puffy state of the face and of the surface of the body generally. On admission, the aspect of the patient was strictly characteristic of acute albuminuria. The face was puffy; the eyelids were œdematous, as well as the backs of the hands and the arms as far as the elbows; the surface of the chest was slightly anasarcous, but the dropsy was more pronounced from the thighs downwards. The respirations were hurried and the breathing movements short; a deep inspiration could not be taken. The breath-sounds throughout the chest were indistinct, and everywhere obscured by moist, wheezy mur-

murs. The resonance was equal in the corresponding regions of the two sides. The sounds of the heart were indistinct, and everywhere obscured by moist chest sounds. Pulse, ninety. He complained of a teasing cough, worse at night, and dyspnœa, coming on in paroxysms. The expectoration was bronchial mucus. There was free micturition, but the urine was scanty in quantity, very high colored, of a bright sherry color, and of sp. gr. 1022. Not a trace of albumen could be detected in it. Neither heat and nitric acid, nor nitric acid alone poured gently down the side of the tube so as to form a layer at the bottom, indicated the faintest trace; nor was any cloud produced by nearly pure alcohol. He was treated by purgatives and diuretics, and in nine days the dropsy had disappeared. The urine was carefully examined every day, but no albumen was discovered. A faint pericardial murmur was found in the heart. It was distinctly to and fro, but was unaccompanied by any pulse affection, which was from 70 to 80, or embarrassed breathing after dropsy was relieved. The pericarditis was believed to date back to a previous attack of rheumatism. The man left the hospital perfectly recovered, eighteen days after admission."

The following case treated and reported as one of idiopathic dropsy, by H. C. Wood, may be found in the *Am. Journ. of the Med. Sci.* for 1871:

"The patient was a lady of about forty years of age, whose family physician I had been for some years. She was free from all organic disease. About two years before, she had had a miscarriage, but, excepting at that time, and whilst she was suffering from some uterine cervicitis produced thereby, she had enjoyed good health ever since I knew her. Oct. 25, 1870, I was called to see her. During the summer she had suffered greatly from the excesssive heat, but had not been sick. For the last week or two her friends had told her that she was looking very full in the face, but she herself had perceived nothing until the previous Thursday, when, on attempting to put her shoes on she found her feet so swollen as to prevent her. By Sunday she was in the same condition as at present. Present condition: Face and legs very highly œdematous; trunk and arms very decidedly so. Face somewhat pale, but there are no marks of anæmia. Tongue contracted, firm

without teeth-marks. Heart-sounds normal; bowels normal; urine, according to her statement, passed in normal amount, limpid, free from sugar or albumen. Ordered, potass. bitart. ℥j. inf. juniperi oj. Take in 24 hours. 28th. Swelling gone from face; nearly so from feet. 30th. Patient well.

The following is a case of my own, whose clinical history, in almost every particular, corresponds with the two cases just cited:

On the morning of Nov. 15th, 1877, J. T., living several miles in the country, brought to my office his child, a boy about four years of age, for examination and such treatment as, in my opinion, he might need. The little fellow was quite bright and lively and seemed to be wholly unconscious of the slightest physical ailment, and had it not been for the very perceptible œdema of the face and hands, which at once attracted my attention, I would have thought any special examination of the case quite unnecessary. The eyelids and face were considerably puffed; the hands were swollen, the arms, however, were not affected. No anasarca of the surface of the body was observable. The feet were swollen and tense, and the legs more or less œdematous; no swelling of the thighs. The prepuce and scrotum were also involved in the effusion to a limited extent. There was slight cough, which seemed to depend entirely on bronchial irritation. Respiratory murmur plainly audible over both lungs; heart-sounds, distinct and normal. Respirations somewhat quickened. Pulse, 105; full and strong; tongue, very slightly furred. Urine, rather scanty, but in other respects apparently normal. Bowels, constipated. The child was fat and muscular, was well and compactly built, and was evidently the possessor of a fine constitution. On making inquiry as to his previous history, the father informed me that all his life long he had enjoyed uninterrupted good health, and not until the present attack of illness, which was noticed for the first time two or three days previous, had the child been sick even a single day. Nov. 17. The father called and reported the case not so well; he was certain that the swelling was rapidly increasing, with an aggravation of the symptoms generally.

Nov. 19th. I was requested to visit the patient; found him much worse. The anasarca had become general, and, in degree was absolutely frightful. The feet, legs and thighs, and hands

and arms were enormous in size, and by reason of their great weight, were almost useless.

The increased swelling of the face had almost obliterated the eyes, and the integument covering the body seemed stretched to its utmost capacity. The scrotum had grown to an incredible size and the penis was simply without form—an irregular, shapeless mass, having lost every vestage of its original identity. There was hydrothorax, marked and decided; effusion into the abdominal cavity not clearly made out; heart-sounds scarcely perceptible; respiratory murmur very feeble, with exaggerated bronchial respiration. Breathing rapid; a moist, wheezing harrassing cough with paroxysms of dyspnœa not unlike the paroxysms of asthma. Pulse, 120; temperature, 102°; quite thirsty. Bowels still disposed to constipation. No gastric disturbance of any consequence. Urine still deficient in quantity, very nearly natural in color, and with a specific gravity of 1,023. From time to time during the progress of the case, the urine was very carefully examined with heat and nitric acid, with always the same unvarying result—a complete absence of even the slightest trace of albumen.

The treatment of this little sufferer, from first to last, consisted almost exclusively, in the free use of purgatives and saline diuretics, and, notwithstanding the general character of the dropsy, the enormous quantity of the effused liquid, and the gravity of at least some of the symptoms, the patient, on the 20th, was evidently better, and so rapid was the convalescence, that on the 29th, only about sixteen days from the inception of his illness, every trace of swelling had disappeared; the heart-sounds were again distinct and healthy; vesicular murmur normal; cough almost entirely gone; breathing free and easy; in short, apart from some remaining debility, the recovery was perfect and complete.

In the last three reported cases can we, with due regard to the clinical history of each, charge the dropsy to renal disease? I cannot think so. Was the fault in anæmia? Certainly not, for in neither case was that condition present, even in a limited degree. Did the trouble depend upon lesion of the lungs, heart or liver? There were no evidences pointing to disease of any of those organs. Then if we are forced to exclude organic disease, whence comes the mechanical obstruction and upon what does it depend?

H. C. Wood, from whose article on acute dropsy (see *Am. Journ. of the Med. Sci.* for 1871) I have already drawn liberally, is of the opinion "that many cases of acute dropsies are due not to a mechanical impediment to the circulation, but to a peculiar condition of the cellular tissue, whereby its natural secretion or exhalation is enhanced, so that the water may be said to be actively thrown or drawn out from the vessels."

Is the theory of Dr. Wood correct; are his premises tenable? If so, I think it must be true that prior to the abnormal excitation of the cellular membrane, upon which, he claims, the effusion depends, there must have occurred certain morbid blood-changes, and that said morbid condition of the blood, whatever may be its nature, is the *direct* and primary factor in the production of the cellular irritation. If we admit the existence of acute dropsy, independent of organic trouble, does it not follow as a necessary sequence that we must admit the correctness of the idiopathic theory? And if this latter theory is accepted, upon what principle are we to account for the serous infiltration? On what particular pathological condition does the effusion depend? In the solution of this question I am free to admit that I have no theory to advance.

A CONSIDERATION OF SOME OF THE ERRORS INCIDENT TO THE ORDINARY METHODS OF DETERMINING THE RELATIVE LENGTHS OF THE LOWER EXTREMITIES,

With a Description of an Instrument Designed to Secure an Approximation to Precision in such Measurement.

By John Bartlett, M. D.

(Summary of a paper read before the Chicago Medical Society, March 4, 1878.)

The anterior superior spinous processes of the ilium, are ineligible as points of measurement, because practically, they are not determinable with precision.

The umbilicus is objectionable in that it may incline from the median line.

By the weight and pulley method of treatment of fracture of the thigh, the pelvis is inclined toward the injured limb. This inclination of the pelvis is equivalent to abduction of the thigh. To approximate the sound limb to the injured one, under such circumstances, is to adduct it.

As frequently dressed, the injured thigh is in a state of slight flexion.

A lower extremity in abduction, measured from the iliac spine, as contrasted with its fellow lying in true line with the pelvis (with the inner margin of the heel on the median line), has the appearance of being shortened in a measure, bearing a direct proportion to the degree of abduction. Thus, if the limb be abducted one foot (measuring the degree of abduction on a line drawn from the inner side of the heel, perpendicular to the median line), the apparent shortening will be three quarters of an inch, nearly. If it be abducted two feet, the apparent shortening will be one and a half or two inches.

Measured from the spine, a limb in adduction contrasted with its fellow measured when at the median line, presents one quarter of an inch of lengthening for six inches of adduction, and three-eighths of lengthening for one foot of adduction, approximately.

Measured from the umbilicus, a limb in abduction, as contrasted with its fellow lying at the median line, appears to be lengthened for one foot of abduction eleven-sixteenths of an inch; for two feet of abduction nine-sixteenths of an inch, nearly.

A limb in adduction, measured from the umbilicus, as contrasted with its fellow at the median line, appears to shorten rapidly; about one and a half inches for one foot of adduction.

A limb slightly flexed upon the pelvis, contrasted with its fellow lying in line with the body, whether measured from the umbilicus or spine, appears to be shortened in proportion to the degree of flexion, the amount being about one-eighth of an inch for one inch of elevation of the heel, two-eighths for two inches of elevation, and three-eighths for three inches.

Errors in measurement are apt to arise from the varying degree of rotation of the limb inward or outward, and when the measurement is taken from the sole of the foot, or by passing a loop

about the foot, marked errors may arise from the varying degrees of extension of the foot at the moment of measurement.

If the sound limb, when used as a standard of measurement, does not lie in a line with the pelvis, but in adduction, a combination of errors arises, and the injured extremity will appear lengthened or shortened by an amount equal to the sum of the errors of abduction and adduction.

The instrument designed to eliminate these errors, consists of a pelvic arc of wood, intended to span over the pelvis, and to rest by its lower concave edge on the iliac spines. On its inferior face, this arc is marked from centre to extremities in inches, in order that it may be set as a base line on the spines, so that its centre shall be equi-distant from each, and so that a tangent drawn parallel to the ends of the arc, may be parallel to a line passing between the spines. Projecting perpendicularly from the lower surface of the arc, is a thigh piece, curved somewhat backward, that its inferior end may rest upon the bed, and connected to this by a knee-joint, is a leg piece extending some inches below the feet. This leg piece has moving up and down upon it, by means of a screw, a rule graduated in inches from the centre outwardly, and adjusted in exact parallelism to the supposed tangent of the arc, to which reference has been made. Upon this rule slide "riders," which, when a measurement is being taken, are brought directly beneath the point of intersection of two lines drawn upon the soles of the feet, the one transverse, directly under the ankle joint, where the movements of the foot in extension and flexion are least appreciable, the other marking the central line of the sole.

The portion of the instrument thus far described, may be termed the measuring piece, the part to be mentioned may be called the base.

For any purpose of accuracy, more definite, determinate points of measurement should be taken than those furnished by the iliac spines. As a more suitable bench mark, corresponding points upon the upper margins of the crests of the ilia are chosen, upon which to apply the base of the instrument. This, a kind of body yoke, consists of two rectangular wooden plates adapted to the sides of the abdomen, held in position by a girdle of iron

rods, and thrust firmly down upon the iliac crests by tension of the thoracico-humeral muscles communicated by crutch-pieces, the extremities of which bear upon the upper margins of the side-plates. Jutting outwardly from the lower edges of these plates, are discs of metal to which the ends of the arc piece of the measuring portion are immovably clamped.

The instrument having been secured upon the pelvis by the means just detailed, the thigh and leg pieces take position between the limbs of the patient, with the rule resting below the feet. The degree of abduction of the injured limb being read upon the rule, the uninjured extremity is placed in a corresponding position not only of abduction, but of flexion and rotation. The limbs being thus symmetrically adjusted, the rule, by the slow windlass motion, is approximated to the soles of the feet, till the edge of one of the riders impinges against the point of intersection marked thereon. The distance at which the opposite rider stands from the measuring point on the sole of the foot of the shorter leg, will be the difference in the lengths of the limbs required.

In view of the objections to the use of points of measurement for the lower extremities apart from, and out of the axis of, the limb, it would be better to select one as nearly as possible over the centre of motion of the femur. Such a point may be determined on the sound side with a good degree of accuracy, in the manner to be described; and a corresponding point on the injured side may be located by comparative measurement. Flex the thigh upon the pelvis, and mark with India ink or nitrate of silver, a line corresponding to the fold of the groin, indicating the line of hinging of the thigh on the body. Then choose a point of provisional measurement, from which the limb will give the same measurement at convenient degrees of abduction and adduction. Such a point is found on a level with the iliac spines, and about midway between the "spine" and the median line. Adduct the limb some inches, and trace on the abdomen with India ink and pencil, the line which the tape makes from the provisional measuring point, a few inches downward. Then abduct the limb carefully, avoiding errors of rotation and flexion, the eye meanwhile resting on the tape measure, at the ankle or foot, as it indicates, first

lengthening and then shortening. Abduction must cease exactly at the point where the tape gives the initial figure of measurement, that is, where the limb in abduction measures the same as at the beginning, when resting in adduction.

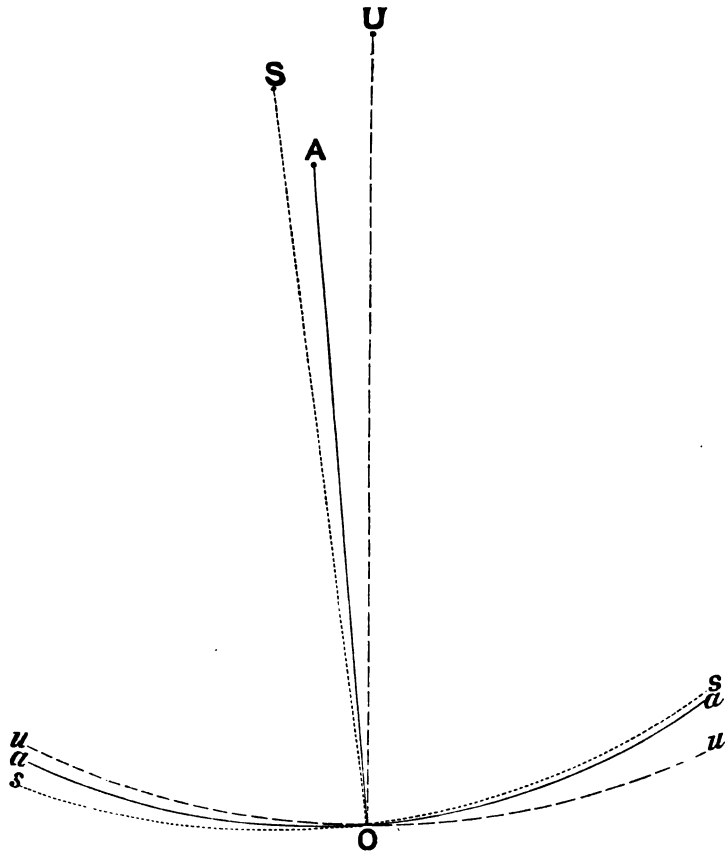
The course of the tape in this position must now be traced from the provisional centre of motion. The angle formed by this line, with the one just drawn, is bisected, and the point at which the bisecting line intersects the groin line, lies over the centre of motion of the hip joint. Measurements from it may be taken without regard to the relative positions of the limbs in abduction or adduction. Instead of bisecting the angle formed by the tape line as a radius moving about the point of provisional measurement, the chord of the arc described by the heel in the change from adduction to abduction may be bisected upon a thin board placed under the heel. While the limb rests on the bisecting line, the tape stretched between the provisional point and the point of original selection at the extremity of the limb, will intersect the groin line over the centre of the head of the femur.

A corresponding point in the opposite groin is determined by comparative measurements from the lower line of the groin, the pubis, iliac spines, and the umbilicus. The two points thus obtained may be utilized in this way: The two ends of a twine tied at its middle into the ring of a tape-line, are held by an assistant one upon either spine, the one or the other being lengthened or shortened, as may be necessary to enable the surgeon drawing upon the tape, to place its ring exactly over the centre of motion point. This being effected, the measurement of the sound limb is taken and noted down. The ring of the tape-line is then placed in position over the centre of motion on the injured side, and corresponding measurements are made.

The above plan of finding a point over the centre of motion, is tedious and troublesome, and is far less convenient, and perhaps not more correct than this simple procedure: trace a groin line as directed above, and intersect it by a line drawn parallel to, and on the outer side of the femoral artery, distant from its central line the mean width of the index finger of the patient. The point of intersection of this, with the groin line,

for practical purposes, may be regarded as over the centre of the head of the femur.

The facts given in the preceding summary may be illustrated by the accompanying geometrical diagram. The points A, S, U, O,



represent the relative positions, as taken from the skeleton, respectively, of the centre of motion of the hip joint, of the anterior superior spinous process of the ilium, of the umbilicus, and of the inner edge of the heel. The radii AO, SO, UO, represent, the former the limb, and the latter two, measurements as taken from the "spine" and the umbilicus, respectively. Any imaginary line joining the several centres with any point in the

solid, dotted or dashed curves may stand for the position of the limb, or of the tape from the spine or from the umbilicus respectively.

It will thus be seen, by contrasting the three circumferences, what relation any points of measurement, whether in abduction or adduction, or from the spine or umbilicus, bear to the radius representing the extremity.

Thus it is apparent at a glance that in abduction the dotted circumference denoting measurement from the spine to the extremity of the limb on the median line falls beyond the solid curve representing its actual length; whereas in adduction it falls short of this curve; indicating, in the one case, that measurements from the spine, the limb being on the median line, applied to a limb in abduction will fall beyond its extremity, and cause it to appear shortened; whereas, if applied to a limb in adduction it will fall short of its extremity, and cause it to appear lengthened.

And so as to measurements from the umbilicus, it is seen, that in abduction the dashed curve, indicating measurement from the umbilicus to the extremity of the limb on the median line, falls short of the solid curve representing its actual length; whereas, in adduction it falls rapidly below it, indicating, in the first instance, that measurements from the umbilicus, the limb being on the median line, applied to one in abduction will fall short of its extremity, and cause it to appear lengthened, whereas if applied to a limb in adduction, it falls far beyond the extremity and causes it to appear much shortened.

The diagram is a graphic portrayal of the possible errors incident to the attempt to make comparative measurements of two radii, the extremities, free to move about their separate centres, by the comparison of other radii having different lengths and different centres of motion.

DANGER FROM THE HYPODERMIC INJECTION OF MORPHIA.

By E. Fletcher Ingals, M. D., Chicago.

In the August number of this journal, in connection with three cases reported by Dr. E. Wenger, of Gilman, Ill., I presented the history of a case illustrative of the danger which sometimes attends the hypodermic injection of morphia.

In reply to this article, a communication from Dr. John McLean, of Du Quoin, Ill., appeared in the November number, which induced me to make further inquiry upon the subject. Accordingly, I addressed circulars embracing the following questions, to eighty representative physicians of the northwest:

"Have you often given hypodermic injections of morphia?"

"What is your ordinary dose of morphia when used in this manner?"

"Have you ever seen syncope or other unpleasant results follow its administration by this method?"

I have received replies to fifty-five of these circulars. Nearly all of my correspondents had used hypodermic injections often, in doses varying from $\frac{1}{16}$ to $\frac{1}{2}$ of a grain, and in exceptional cases one grain. The majority were accustomed to give from $\frac{1}{8}$ to $\frac{1}{4}$ or even $\frac{1}{2}$ of a grain. Two recommended from $\frac{1}{16}$ to $\frac{1}{2}$ of a grain. Three did not exceed $\frac{1}{8}$ of a grain.

A few stated that they were accustomed to combine atropia with morphia for hypodermic use. Thirty-four, of the fifty-five, had seen no unpleasant results, and six had seen nothing worse than abcesses at the point of introduction.

The unpleasant results observed by the remaining fifteen are well worthy of our attention, and ought to lead us to greater caution in the use of morphia in this manner. When this drug has been taken into the stomach, there is still a possibility of removing a portion of it, and doubtless, as the system comes gradually under its influence, absorption is more and more impeded, so that the danger from any which may remain in the stomach, is con-

stantly diminishing, and time is allowed for treatment adapted to such cases. If morphia is introduced by the hypodermic syringe, it passes speedily, if not directly into the circulation, and may overwhelm the nervous system by toxic effects, which the physician will have neither time nor means to counteract. It is not unlikely that the most unfortunate experiences were among those who made no reply to my inquiries; still I have received reports of seven fatal cases from morphia used subcutaneously. Had the same dose been given internally, there is reason to believe that six of these would not have occurred, and possibly the seventh might have been saved by proper treatment.

I have no desire to limit the use of a remedy which does so much to alleviate human suffering; neither do I care to discourage its subcutaneous administration, provided it can be so used with safety; but I wish to point out the danger of serious effects, to those who from long use without accident, have come to believe the hypodermic injection harmless, and to those who have not thought of its dangers.

I have no doubt that a minute dose of morphia would be harmless, even if injected directly into a blood vessel; but I fear it would have little effect in relieving severe pain, unless frequently repeated. Even the $\frac{1}{12}$ of a grain is not always devoid of danger, and a fatal case from $\frac{1}{6}$ of a grain of morphia, combined with one $\frac{1}{75}$ of a grain of atropia, shows that it is not safe to rely on the antagonistic effects of the latter.

The results of my inquiries seem to leave us no other choice than reasonable doses by the stomach, or the frequent repetition of *very small doses*, hypodermically. The method is of little importance, provided it is safe and agreeable to the patient.

In two of the seven fatal cases reported, the amount of morphia administered was not ascertained, though it was believed not to have exceeded the ordinary dose. In the other cases, the doses and the condition of the patients were given, but I am not at liberty to report the cases fully; however, as my information was derived from men of large experience and recognized ability, I can vouch for its accuracy. The names of my correspondents are withheld for obvious reasons.

One reports two deaths, one of which was caused by the subcu-

taneous injection of $\frac{1}{5}$ of a grain of morphia, combined with $\frac{1}{75}$ of a grain of atropia.

Another reports two deaths, one from two doses of morphia, of $\frac{1}{3}$ of a grain each, with an interval of four hours between the first and second doses. In this instance the morphia was given to relieve the intense pain attending invagination of the intestines. Death from narcotism ensued six hours after the second dose. The other death reported by this physician, resulted from $\frac{1}{4}$ of a grain given in a case of sciatica. The patient died comatose within five hours.

Another reports a death caused by two doses of $\frac{1}{4}$ of a grain each; the first given internally.

The sixth case was that of a patient upon whom ovariotomy had been performed. Shortly after the operation, this patient was given subcutaneously, ten minims of a saturated solution of morphia, which amount was repeated five hours later on account of pain; in fifteen or twenty minutes the latter dose was followed by profound narcotism, and within two hours death ensued, notwithstanding persistent use of the most approved treatment. In this case the exact dose was not known, but, considering the ready solubility of morphia, it probably equalled, and may have exceeded $1\frac{1}{2}$ grains. The physician who gave me the notes of this case, found that ten minims of water at 60° F., would dissolve $1\frac{1}{2}$ grains of morphia, while at 160° F., it would dissolve $6\frac{1}{2}$ grains.

The seventh case I give as reported to me:

"I was called to see Mr. B., who lived seven miles away, at 8 o'clock p. m., and I found him suffering from myalgia of the muscles of the back. I at once administered one-sixtieth ($\frac{1}{60}$) of a grain of sulphate of atropia hypodermically; after waiting till dryness of the throat and other constitutional symptoms showed themselves, and finding it gave him no relief from pain, I gave him $\frac{1}{4}$ of a grain of morphia by the mouth. In three quarters of an hour from the time I gave the morphia, the man was still groaning with pain, and then I gave $\frac{1}{4}$ of a grain of morphia hypodermically, which soon quieted the patient. Not suspecting any unpleasant effects from the medicine, I took my departure. In a couple of hours I was sent for to see the man, who, the

messenger stated, 'was in a deep stupor.' Upon my arrival I found Drs. L—— and J——, who lived only three miles distant. The patient's breathing was stertorous, and there was complete narcotism. Dr. J—— stated that the pupils were not contracted when he arrived. He had given atropia hypodermically, and was using electricity. The latter was kept up as well as artificial respiration, till the patient died, which was about twelve hours from the time the morphia was given. I have given morphia hypodermically a great many times, and repeated ¼ grain doses as often as every twenty minutes, but never before saw any such effect as was produced in this case."

In order better to illustrate some of the effects which follow the hypodermic injection of morphia, I quote from the replies to some of my circulars.

"I think there is always more or less danger from the use of morphia in this way, so have almost discarded its use."

"I am chary of the use of the syringe; using it when demanded—dose gr. ⅛. Largest dose ever ventured on was gr. ⅓ (in violent colic.) The patient was asleep in one minute, and did not awake for sixteen hours. No bad results."

"I have seen unexpectedly severe effects on several occasions. I do not give morphia in that way, when I can give it by the stomach. The effects that I speak of were simply severe ordinary effects of the medicine."

"No syncope, but in my experience results have been so uncertain and unexpected, that I now never resort to the surgical operation to introduce medicine, when the patient can swallow or has the use of the rectum. I should as soon think of introducing food as a regular thing by transfusion of blood. Put me down as opposed to the practice, save in exceptional cases."

"Once after ⅙ of a grain, syncope occurred in about fifteen minutes after administration; was given in a case of cholera morbus."

"One case, the patient slept twenty-four hours. * * * The dose was only $\frac{1}{12}$ of a grain."

"But once, gave ⅓ gr. to adult male (in case of compound com-

minuted fracture of tibia and fibula), to ease pain. While administering injection, sudden collapse and dyspnœa, with fluttering heart. Rallied under ammonia and whisky." * * *

"In the case of an old lady nearly eighty years of age, there was almost instantly after the injection a frightful degree of numbness, as she expressed it. (The dose gr. $\frac{1}{4}$.)" * * *

"Have seen alarming syncope in three cases, great prostration in a score at least." * * *

I know of no precaution which will render the hypodermic injection of sedative doses of morphia entirely safe; the medicine may be given in this way a thousand times without harm, but the next time it may be the cause of death. Nothing in the patient's history or general appearance can warn us of the danger, for we find fatal accidents among those who have formerly taken morphia with the happiest results. The danger seems to arise from rapid absorption, or injection directly into the circulation, and it is greatly enhanced by the impossibility of removing the poison.

All are familiar with the rules laid down for the cautious use of the hypodermic syringe, i.e., to withdraw the point of the syringe slightly after the needle has been introduced as far as desired, to inject the solution slowly, etc.; but these are not sufficient to insure us against accidents.

Withdrawing the point of the syringe will not necessarily prevent the solution from passing directly into the circulation; and as to injecting slowly, probably no one would think of occupying more than five or, at most, ten minutes in the operation, which would not be long enough to prevent accidents from rapid absorption. So far as danger is concerned, the hypodermic use of morphia seems to stand in much the same relation to its administration by the stomach, as the inhalation of chloroform does to that of ether; either method may be fatal, but the latter seems much the safest.

It is difficult for those who have administered morphia subcutaneously for years, without accident, to realize that there can be danger from the practice; and so is it with chloroform, but we all know that accidents happen from this drug in the hands of

the most cautious and skillful surgeons, and considering the large percentage of these fifty-five physicians who have had unpleasant or fatal results from the hypodermic injection of morphia, it would not seem strange if extended and accurate statistics should prove this practice almost if not quite as dangerous as the inhalation of chloroform.

HOW TO SAVE THE PERINEUM.—A NEW USE OF THE OBSTETRIC FORCEPS.—AN IMPROVED INSTRUMENT.

(Remarks made before the Chicago Society of Physicians and Surgeons, April 8, 1878.)

By Edw. Warren Sawyer, M. D.,

Lecturer on Obstetrics and Diseases of Children, Rush Medical College, Chicago.

Mr. President and Gentlemen:—The remarks which I have to offer, relate to those labors in which the vertex is in advance, and only to that stage of labor when the head has almost passed through the bony portion of the obstetric canal, but is still opposed chiefly by the woman's soft parts at the floor of the pelvis, and the outlet of the canal.

It will perhaps elucidate the point I hope to establish, if I may be permitted to describe the manner in which the forces of the woman will complete the expulsion of the head, if no interference is offered by the attendant.

At the moment we speak of, the antero-posterior diameter of the fœtal head approximately corresponds to the same diameter of the parturient canal. In the great preponderance of labors, the back of the head looks upward—the woman being upon the back. A little further advance brings the vertex to look through the vulvar aperture, and the nape of the neck in contact with the inner surface of the pubes; while that part of the occiput just inferior to the protuberance, is lodged against the sides of the pubic arch. The occiput is too broad to be received into the pubic arch as far as its summit, as one may convince himself by

sweeping the tip of the finger between the inferior border of the symphysis and the head, during the expulsion of the latter.

Till this time the fœtal head has been in a state of flexion; but, when the occipital plane becomes arrested against the pubic arch, the frontal part of the head receives the propelling force more directly, and is soon in advance. The head is now made to describe a movement of extension, or evolution, by which it becomes unfolded into the world, around the point of the pubic arch, against which the occiput is lodged, as around a pivot.

Two forces operate to produce this extension. The propelling power of the uterus, and its auxiliaries, the *vis-a-tergo*, advance the head until the larger portion of the forehead looks over the margin of the perineum. When the soft-parts become still further distended by the fœtal head, the perineum draws itself backward over the face, urging forward successively the margin of the orbit, the malar prominences, nose, lips and chin, the part of the head to be freed last being that part which was lodged against the pubic arch. This retraction of the perineum is the second force which extends the head.

Such is an outline of the manner in which the head is delivered by nature. A movement which, while it succeeds in its object, at the same time jeopardizes the woman's soft-parts. This is even more apparent when we recall the successively increasing dimensions of the head which pass through the vulvar outlet. I have given the name pubo-facial diameter to that axis, one end of which rests upon the highest part of the pubic arch, while the opposite extremity is lost upon different parts of the face. Their names indicate the limits more exactly. The length of these several axes show the extent to which the vulvar aperture is opened to give exit to the head. Thus the pubo-frontal, $4\frac{1}{2}$ inches; pubo-malar, or nasal, $4\frac{3}{4}$ inches; pubo-mental, $5\frac{1}{4}$ to $5\frac{1}{2}$ inches. I believe it practically impossible for the vulva of the primiparous woman to be stretched to this degree without a rupture of the perineum occurring. I am aware that a primipara may be delivered of a large child and her perineum be left intact, but this is because the judicious interference of her attendant compelled the head to pass out in a shorter axis than nature can do if left to herself.

I have had an opportunity of an occular demonstration of the moment and manner in which the perineum was torn. Just as the upper margin of the orbits looked over the edge of the perineum, the little fold of mucous membrane known as the fourchette, or frænum, gave way; this tear was continuously deepened by the malar prominences and chin. This is, I think, the usual order. Writers have described, in exceptional cases, its first giving way at the center. But all agree that it tears on the median line.

I know some hold that it is the bis-acromial diameter, the shoulders, which causes the tear. But I cannot believe that the perineum left absolutely intact by the head, will be torn first by the shoulders, under the care which the woman always receives. Such an accident can always be averted by delivering the pubic shoulder first.

The interference which I would recommend, to anticipate the hazardous stretching of the vulva, is, in a word, of a nature to hold the head in a state of extreme flexion, and force it to pass through the vulva in a diameter a little superior to the pubo-frontal, and which has a length in the full grown child of about four inches.

I cannot assume that preventing the extension of the head at this time is an original procedure; only that its significance is not generally understood. Many practitioners interfere during this stage of labor, and really prevent the complete extension of the head. Thus, some hook the index finger over the chin through the woman's rectum. It would seem, at first sight, that they attempted just what we would prevent, that is, extension of the head; but really they accomplish what we have recommended; for the thumb of the same hand is pressed upon the perineum which is being bulged out by the forehead. In this way, with the face held between the thumb and finger, in easy cases, the sinciput is kept back.

Others apply the hand to the perineum in such a way that the commissure between the thumb and finger corresponds with the posterior commissure of the vulva. Judicious support, continuously supplied, is of the greatest advantage; but the object to be attained by this palmar pressure is not always understood; for I have often been told to hold the forehead back for a time to

allow the perineum to become thin, and the vulva more easily stretched. Possibly this is accomplished; but the greatest advantage comes from the flexion into which the head has, by this means, been forced.

In addition to holding the sinciput back with one hand, others attempt to tease the occiput forward, with the fingers of the other hand applied to the head just in front of the symphysis pubis.

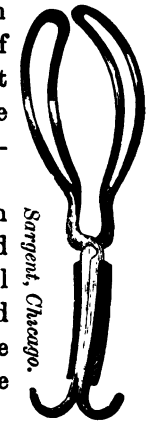
Besides the objections to the introduction of the finger in the rectum, it can be said against all these measures, that they are not sufficient, in the majority of labors, to hold the head in a state of flexion.

I am assured that this can be most certainly and easily accomplished with the forceps. For a long time I have been using my short forceps for this purpose, with the most satisfactory results.

I have recently modified my forceps to make it more easily used for this purpose, viz: I have continued the pelvic curve forwards to the handle, giving the entire instrument a regular curve from the extremity of the blade to the end of the handle.* This curve assists the operator in giving a proper direction to his traction, and makes the instrument most useful for the operation which I will detail presently, at the same time that the general usefulness of the instrument as a short forceps, is enhanced.

Length of instrument, 10 inches; length of blade to lock, 6½ inches; length of chord of head curve, 5¾ inches; widest part of blade, 1½ inches; greatest distance between blades, 2¾ inches; distance between tip of blades, ½ inch; weight, 7 oz.

NOTE.—The handle is to be seized in such a manner, that the palm of the hand looks upward; the hook of one blade will then rest naturally upon the lateral and extensor surface of the first phalanx of the index finger, and the other hook upon the corresponding part of the thumb.



* I have also added this curve to the long forceps; which, besides guiding the operator in making traction always in the right axis, is peculiarly adapted to those high operations where the perineum and coccyx do not allow the instrument to be directed backward to a sufficient degree.

Let us assume that the forceps is to be used to flex the head, and to hold it in a state of flexion. At this stage in the labor the woman is usually upon the back. Her position need not be changed, only to have the limbs strongly flexed, in the lithotomy position. Nor is it necessary for the operator's body to be in a line with the pelvic axis. The introduction and locking of the blades, is a matter of extreme simplicity. While the head is loosely held, the handles should be elevated, so as to nearly approach the symphysis. Choose the interval of uterine action. Now clasp the head firmly in the blades, and slowly depress the handles until the edge of the perineum is approached. It may be that one movement is not sufficient to flex the head; this is the more likely to result if the operator is overtaken by a contraction of the uterus. It is only necessary, in this event, to repeat the elevation and depression of the handles, and the operator will have the satisfaction of feeling the sinciput recede, when a moment before it was causing the perineum to bulge out in a most threatening manner.

The most important step in the operation remains to be mentioned. When the head has been flexed, the hold of the instrument should be relaxed, and the handles elevated to that degree that the general axis of the handle is nearly perpendicular to the plane of the bed. It is in this position that the head is to be held, if the operator waits for the uterus to complete the delivery; and it is in this direction only that the operator lifts the head, if he sees fit to make traction.

If, in addition to this use of the forceps, the ends of the fingers of the disengaged hand are placed upon the head, in such a way that the convex surfaces of the nails rest upon the edge of the perineum, and, during the interval of uterine action, gentle efforts are made to tease back this edge, and to prevent it from being caught upon the advancing head, the operator has, by this conjoined manipulation, given the soft parts the greatest possible security.

Finally, in an exceptional case of posterior position of the occiput, which refused to rotate forward to appear beneath the pubic arch, I was able, by reversing the movement I have described, to lift the head into marked flexion, and to deliver a primipara of a large child without injury to the soft parts.

As injuries of the soft parts, I have, in the foregoing remarks, alluded particularly to those rents which are apparent upon an inspection of the perineum. But, it seems reasonable that the liability to those not infrequent tears of the mucous membrane about the outlet, would be lessened by the same measures which would prevent the dangerous distension of the perineum.

REPORT OF SEVEN CASES OF TRACHEOTOMY IN DIPHTHERIA AND CROUP, WITH TWO RECOVERIES.

By E. W. Lee, M. D., Chicago.

Case I.—Diphtheria.

At 2 a. m., August 29, 1877, I visited Nannie Keegan, aged 3 years and 10 months, a healthy looking well nourished child. The parents stated that she had been sick three days. Her condition at this time was as follows: extreme dyspnœa, the head thrown back, the epigastrium retracted, and all the muscles assisting in respiration called into full play; the skin hot, pulse 160, and countenance livid.

An examination of the throat revealed diphtheritic exudation on the fauces, velum, and tonsils, which appeared to extend deeply into these parts. A physician had been in attendance for a couple of days, employing the usual remedies without preventing the progress of the disease, and had finally expressed his opinion that further medication was useless, and the only hope of saving the child was in the operation of tracheotomy. As I fully coincided in this opinion, I immediately proceeded to operate, assisted by Drs. Hutchinson, Taliaferro, and Landis. After some delay, owing to hemorrhage, the tube was successfully introduced, chloroform being the anæsthetic employed. Immediate relief ensued, and the patient rallied finely. The pulse fell to 130, with a general alleviation of the distressing symptoms. The child passed a comfortable night, partaking freely of nourishment, and on my visit next morning, was in a favorable condi-

tion; pulse 120, and the respiration accelerated, but easy. About two hours after, I was summoned in haste, and on arrival found the child struggling with extreme dyspnœa, evidently dying. There was profuse expectoration of a sanious mucus, and crepitant râles were distinctly heard over both lungs. The tube was immediately removed, but without benefit. The child died within an hour.

The remarkable features of this case were the sudden accession of these unfavorable symptoms, and the rapidity with which they progressed.

Case II.—Diphtheria.

John Phalon, Irish, æt. 4, a stout, healthy looking boy, had been complaining of sore throat for three or four days. On my visit, Oct. 11, 1877, a.m., I found him playing about the house, apparently not in much distress. He had croupy cough, which had begun the day before, and his breathing was now becoming stridulous. On examination, found the tonsils and soft palate covered with a well-marked diphtheritic exudation. The pulse was from 120 to 130, the skin moist and respiration accelerated. The disease was evidently extending into the larynx. As none of these symptoms existed in an aggravated form, the case was deemed a suitable one for constitutional treatment. Accordingly the patient was put upon a solution containing iron, quinine, and chlorate of potassium. The disease made no apparent progress for the remainder of that day, and the next morning (12th) there seemed to be some improvement, which condition was maintained throughout that day.

Oct. 13th, a.m.—Condition about the same. In the afternoon the breathing became somewhat labored, and in the evening I was sent for, with the information that the child was suffocating. On my arrival, found him sleeping very quietly; stridor had disappeared, the pulse had fallen, and also, the respiration.

In explanation, the parents stated that he had vomited a large piece of tough, whitish-looking substance, which he held between his teeth for a moment, but swallowed on their attempting to remove it. Relief from the distressing symptoms was immediate, and the child fell into a quiet sleep.

Oct. 14th, a.m.—Child again playing about the house. Medicine continued at increased intervals. 15th.—All evidences of the disease had disappeared, and I ceased my attendance. 16th.—Was again sent for, and found the child in about the same condition as on my first visit. Active treatment was again resumed, and in addition the steam atomizer, with a solution of carbolic acid and chlorate of potassium and glycerine, was employed. During the day the child's condition gradually became worse. Bronchial râles were heard over both lungs. 17th, a.m.—No improvement; p.m.—Growing worse. 18th, a.m.—Greatly distressed; urgent dyspnœa; head thrown back, epigastrium retracted, countenance livid, the pulse rapid and feeble, asphyxia imminent. Tracheotomy was now advised as the only procedure affording any hope of relief.

After considerable hesitation, the parents reluctantly consented to the operation, which was then rapidly performed, the patient under chloroform. Drs. Bridge, Taliaferro and Landis assisted. Immediate relief was experienced on the introduction of the tube. Brandy, quinine and beef tea ordered. The child rested well during the remainder of the day, but the tube required frequent clearing of a thick, tenacious membrane.

Oct. 19th, 8 a.m.—Passed a comfortable night; pulse 133, respiration 36. The tube required constant attention. Treatment continued. 9 a.m.—Vomited for the first time the brandy and beef tea, which were given together. 11:20.—Condition so much improved that he sat up in bed and played with toys. He retained his medicine and nourishment. 12 m.—Coughed up a piece of membrane. 4 p.m.—Pulse 142, respirations 24 and noiseless; tongue moist and clammy. 6 p.m.—Had several fits of coughing, and a larger piece of membrane was expelled; also some tenacious puriform mucus. 9:15 p.m.—Coughed up a piece of tube-cast, $\frac{3}{4}$ inch in length, perfect in shape; also a considerable quantity of puriform mucus, with some shreds of membrane.

From this time, this muco-purulent discharge increased in quantity.

Oct. 20th, 8 a.m.—Passed a restless night. Increase of mucus in bronchi. Brandy had been given at lessened intervals. Stomach very irritable. Notwithstanding these unfavorable symptoms the

child rallied so that the pulse fell to 134, and respiration 36. This condition, however, lasted only an hour. The case now assumed a decidedly unpromising aspect, the pulse and respiration slowly rising. In 3 or 4 hours the breathing became so labored that the tube was removed, with the hope of affording relief. This failed, as the disease had evidently extended to the small divisions of the bronchi. Owing to the supporting treatment which had been zealously carried out, the patient's strength remained good till the last. He died by asphyxia, at 2 p.m., struggling violently.

Case III.—Membranous Croup.

Oct. 22, 5 a. m.—I visited Clara Nolan, Irish, æt. 7, spare habit, extremely nervous temperament, and poorly nourished. Had been complaining of "croup" for about two weeks, though playing about up to the afternoon previous. She was then taken with paroxysms of croupal dyspnœa. A physician was called, who administered an emetic of Turpeth mineral and employed the steam atomizer. These measures afforded temporary relief. At 4 a. m. the child's respiration became so labored that asphyxia was imminent. I was hastily summoned, and found the child nearly moribund; the head retracted, the epigastrum sunken, struggling violently for breath; pulse 160, resp. 40 to 50, and every evidence of severe nervous shock. On examining the throat there was no membrane visible. Hopeless as the case appeared, I determined upon an immediate operation. Chloroform was administered and the operation hastily performed—Drs. Taliaferro and Landis assisting. After the introduction of the tube, we supposed, for a few moments, that the child was dead, as she ceased breathing. Artificial breathing, however, restored her. The reaction in this case was very violent; pulse rising to 168, resp. 70, temp. 104°. Brandy, beef tea and quinine were freely administered.

Oct. 23.—A general amelioration of the symptoms occurred.

Oct. 24.—4 p. m. Increased obstruction of breathing. Being present I removed the tube, when a large piece of membrane was expelled by violent coughing. This, on examination, was found to be a little over a line in thickness, about 1¼ inch in length,

and ½ inch in breadth. The breathing immediately became easier and the tube was reinserted.

From this time the child slowly convalesced, though at times the pulse and respiration were accelerated to an alarming degree. This, however, we came to recognize as due to nervous influences. On the sixth day the tube was permanently removed, and a wire frame, covered with flannel, which was fitted to the neck to protect the wound, was worn until the latter healed. There were no unfavorable sequelæ and the child ultimately made a complete recovery.

Case IV.—Membranous Croup.

Nov. 16, 1877, p. m.—I visited Matthew Curran, Irish, æt. 4, a stout, healthy looking boy. His parents stated that he had been taken 36 hours previously with a croupy cough. On examination found pulse 140 and running up to 160 during the paroxysms of dyspnœa. Breathing was stridulous, and the cough characteristic. Dyspnœa was extreme; the attitude of patient the same as described in the other cases. An emetic of Turpeth mineral was administered, with some relief.

Nov. 10, a. m.—The breathing more laborious; râles quite distinctly heard over the chest, and a general aggravation of the unfavorable symptoms. It was evident that further medication was useless. On consultation it was deemed advisable to perform tracheotomy, which was accordingly done, with the assistance of Drs. Bridge and Landis. The dyspnœa was immediately relieved and the pulse fell to 130. The respiration, however, continued rapid. Beef tea, brandy and quinine were freely administered. The case apparently progressed favorably for 48 hours, when the respiration, which had continued rapid, became more labored. The tube was removed several times without affording any relief. The child struggled through the night, and died from exhaustion at 6 a. m. of the 20th.

Case V.—Membranous Croup.

Nov. 23, 1877, p. m., I visited Eddie Nolan, Irish, æt 4, in consultation with Dr. Landis. The child had been taken with croupal symptoms 5 days previously, and had been treated, prin-

cipally, with Turpeth mineral, according to Meigs and Pepper's plan, which stayed the progress of the disease for four days, giving hope of ultimate success. On the morning of the 5th day, however, the treatment failed to afford the usual relief, and the child's condition became rapidly worse. On my visit, the patient presented all the unfavorable symptoms detailed in the cases heretofore described. The patient's strength was so much reduced that an operation hardly promised success. The child being a brother of Clara Nolan, case 3, the parents were anxious that the operation be performed. It was accordingly done, Drs. Bridge, Taliaferro and Landis assisting. Notwithstanding the fact that there was not a trace of membrane to be seen in the throat when the trachea was opened, a large quantity of thick, softened membrane, which was blackish in appearance, was expelled through the opening. The operation relieved the dyspnœa for a time, but the respiration remained rapid. The tube had to be removed several times through the night on account of paroxysms of dyspnœa and coughing, when several pieces of discolored membrane were expelled, which always afforded momentary relief. The child was freely stimulated, but without effect, as his powers of absorption were evidently almost *nil.* He gradually sank, and died of exhaustion at 10 a. m. the next morning. During the periods when the tube was removed, membrane could plainly be seen through the opening in the trachea, and several pieces were removed by the forceps.

Case VI.—Membranous Croup.

Dec. 6. 1877. I visited Alice Turcell, æt. three and one-half, a remarkably fine and unusually large child for the age, who had been attacked three days previously, with croup. Her parents stated that she was subject to the affection, but that they had always succeeded in "doctoring her out of it." This time, however, the remedies failed. On examination, the child was found to be suffering from dyspnœa, stridulous breathing, and the pulse was 120 and the respiration 40. Patches of membrane were visible on the tonsils and fauces. Râles were heard over the chest. Emetics were used with marked relief, and I began to hope that an operation would not be necessary.

Dec. 7, p. m. Condition much improved. At 2 p. m., the unfavorable symptoms returned with all their former violence, and tracheotomy was now the only hope. At 6 p. m., assisted by Drs. Marshall, Taliaferro, and Meade, I performed the operation. Relief followed the insertion of the tube, and the child passed a very comfortable night.

Dec. 8th, a. m. Pulse 140, resp. 40. No change during the day.

Dec. 9th, a. m. Marked improvement occurred during night. Pulse falling over 20 beats, respiration 15.

Dec. 10th, a. m. No change and it now seemed that a successful issue might reasonably be expected; p. m., respiration slowly rising and the tube requiring more frequent cleaning. Pulse remained about the same.

Dec. 11th, a. m. Dispnœa became more urgent and the pulse 140. The child's strength remained good throughout the day, but she died from asphyxia, at 5 p. m.

Case VII.—Membranous Croup.

March 17, 1878, p. m., I visited Michael O'Rourke, 26 months of age, a well-nourished child of Irish parents, and was informed that he had been seized with symptoms of croup on the previous day. I found him in the following condition: Pulse 144, resp. 42, and stridulous, skin hot and dry, nostrils distended, dyspnœa marked and epigastrium retracted. There was no membrane in sight. Voice whispering. Ordered a solution containing chlorate of potassium and tincture of iron.

March 18, a. m.—I found an aggravation of all the above mentioned symptoms and I became satisfied that an operation would eventually be necessary.

Being satisfied that the operation is generally performed at too late a period to afford much chance of recovery, I advised that it be done in this case while the vital powers of the child remained good.

Accordingly, at 2 p. m., with the assistance of Drs. Bridge and Landis, I proceeded to operate, chloroform being the anæsthetic employed.

On opening the trachea a quantity of softened membrane was

expelled. After the insertion of the tube, the child experienced the relief usually obtained in these cases.

The pulse, immediately after operation, was 144, resp. 68, temp. 101° F. Iron, quinine and beef tea were ordered. During the day several pieces of membrane were expelled through the tube. 11 p.m.—Pulse 136, resp. 56. Child restless. 19th, 8 a.m. Pulse 128, resp. 44, temp. 100¾°. Passed the night comfortably.

Mar. 19th, 12 p.m.—Pulse 132, resp. 44. During the day several pieces of membrane were expelled. The child partook freely of nourishment and has rested quietly.

Mar. 20th, 8 a.m.—Pulse 128, resp. 45, temp. 100¾°. Passed a good night. 7:30 p.m.—Pulse 134, resp. 38, Child in good condition.

Mar. 21st, 8 a.m.—Pulse 112, resp. 46, temp. 99¾°.

Mar. 22d, 10 a.m.—Removed the tube, and as it was found that the child could breathe without, it was not replaced.

From this date the little patient made a rapid recovery.

REMARKS.—*The Operation.*—Chloroform was employed in all these cases. I think it better to use an anæsthetic, not only does it facilitate the performance of the operation, but it eases the breathing by relaxing spasm. From the first incision to the exposure of the trachea, need not occupy much time, but, unless in exceptional cases, the trachea should not be opened until all hemorrhage has ceased.

As large a tube as practicable should be used, small tubes are easily obstructed, and require such frequent cleansing, as to needlessly irritate the patient. Silver tubes are best. Rubber tubes lose the proper curve after being in use for a time.

The time to Operate.—If this operation be done earlier, the percentage of recoveries will undoubtedly rise; when long delayed, the chances are decidedly against a successful issue. While I think it ought to be done, no matter how desperate the condition, I would advocate an earlier resort to operative interference. Case III proves the possibility of success under the most unfavorable circumstances, as the child was almost moribund at the beginning of the operation. Case VI might, I think, have recovered had the operation been made 24 hours earlier. As it

was, the pulse and respiration fell so rapidly, as to lead me to feel almost certain of its recovery. Case VII was the only one where the operation was performed in reasonably good time, and the easy and rapid recovery made, would seem to impress the importance of an earlier operation. The strength was good, there was no need for alcoholic stimulation, and the condition steadily improved from the time the tube was inserted. It was not expected to find such a quantity of membrane in the trachea, as was discovered in this case. The child had shown the first croupal symptom but 48 hours previously, and although the respiration was rapid, it was not labored to a very marked degree. I was satisfied that operative interference would ultimately be necessary, and determined to give the little fellow all the chances of its early performance. My experience of the operation as a last resort, I think justified me in this. From the date of my first operation, I saw 9 cases where I advised its performance. In 2 the parents refused their consent—both died—in 7 I was permitted to act. I have come to the conclusion that when respiration has been difficult for some hours, without abatement, the voice husky, and other unfavorable symptoms present and corresponding, if an operation be in prospect, the longer it is delayed the less chance there is of success. Very often the treatment for the 24 hours previous to the operation, is largely instrumental in procuring an unfavorable result. Vomiting a child every 3 or 4 hours, to remove obstruction, is poor preparation for such an operation.

In case 5, although the breathing was rendered easy, the most powerful stimulation failed to rally the child, and the most that could be claimed, was that the operation rendered death comparatively easy.

Unity or Duality of Croup and Diphtheria.—As to the unity or duality of croup and diphtheria, I must leave its discussion in abler hands than mine. I think the facts are in favor of the dual theory.

Management.—The temperature of the apartment was kept from 75° to 80° F., and the atmosphere moistened by the use of steam atomizers. The inner tube was frequently cleansed and when that failed to remove the obstruction, a spray of lime water

and glycerine was directed into it. Frequently it was found that the patient breathed easier with the inner tube removed, in that case the outer tube was cleansed by means of a *dry* feather gently introduced and turned round so as to catch the obstructing substance. Failure to relieve obstruction always caused the respiration to become more rapid and in time the pulse also, hence the necessity for skilled attendants. The last six cases had constant medical attendance, and I take this opportunity of returning thanks to Drs. Landis and Taliaferro and Mr. Harold Moyer for their assiduous attention in aiding me in watching these little patients. Case III would undoubtedly have terminated fatally had there not been a competent person in attendance, as the obstruction in the tube could not be removed by the ordinary means.

Treatment.—The first six cases were operated on as a "last resort" and were all in feeble condition from the prolonged efforts at respiration and in some cases from the treatment. Brandy was freely used, also iron, quinine, beef tea, and milk in some cases. Considerable difficulty was experienced in having these remedies retained, the stomach being in a very irritable condition and the patient averse to taking either medicine or nourishment. In case III, any abatement in the stimulation was followed by a change for the worse in the child's condition. For the first three days, brandy was given three or four times an hour, besides the other nourishment.

THE HISTORY OF A CASE OF GUNSHOT WOUND OF THE BLADDER.

By Franklin Staples, M. D., Winona, Minn.

In part second, Surgical volume, of the Medical and Surgical History of the War of the Rebellion, page 265, under the general head of wounds of the bladder, and among cases reported as having recovered with persistent urinary fistula, is the following report:

"Case 781.—Private R. Butchers, Co. H., 72d New York, aged 20 years, was wounded at Mine Run, Va., Nov. 27, 1863,

and was treated on the field until Dec. 5th, and then transferred to hospital at Alexandria. Surgeon E. Bently, U. S. V., reported the case as a gunshot wound of the bladder mainly on the left side; ball removed on the field; simple dressings; discharged the service Oct. 14, 1864; disability total." The history of the case continues and the following appears in the pension examiner's report of examination Sept. 4, 1873, nine years after the soldier's discharge: "There is a large fistulous opening in the urethra in front of the scrotum, also a sinus behind the scrotum on the right side of the perineum which communicates with the bladder. There is evident necrosis of pelvice bones."

History of the case is continued in report of pension examination made Sept. 4, 1875, two years later. The description is as in last report, with addition as follows: "There is a recent fistulous opening in right gluteal region. This has occurred since the last examination."

The Biennial examination of pension examiner Sept. 4, 1877, gives, in addition to what has been given above, the following: "There is now a fistulous opening on the right side of the anus one and a half inches from that described above as on the right of the perineum, back of scrotum. Urine frequenly escapes from both these fistulae."

The object of this communication is to give the continuation of the history of this case as it has come under my observation, and to supply some facts wanting in the above account which help to render the case one of importance.

The ball entered the left groin, passed in front of the femoral vessels and nerve, entered the pelvis through the obturator foramen, passed through the bladder, through the centre of the ischium on the opposite side, lodged in the gluteal muscles on the right side and was removed therefrom by operation on the field. Ten months in the hospital at Alexandria, the first two or three months in bed with a catheter kept constantly in the bladder; urine discharged at each contraction of the bladder through the opening of the exit of the ball, an occasional discharge of small fragments of bone from same opening, with, at length, a cessation of these discharges, and for a time a complete closure of this opening, with patient apparently nearly well, brings the case

to the time of his discharge from the service. During the early part of the hospital treatment, however, while wearing the catheter, inflammation and abscess resulted in the large fistulous opening in the urethra in front of the scrotum. From the time of discharge from the service, Oct., 1864, to the autumn of 1871, no discharge from the wound, nor unnatural discharge from the bladder noticed, except at one time in 1868, after lifting he passed a little blood; the bladder sometimes slightly irritable with a tendency at times to void urine rather oftener than usual, the patient in fair health and able to work hard, makes up the history for these seven years. While riding on horseback in the fall of 1871, he first felt a painful swelling in the perineum; abscess, discharge and a permanent fistula resulted. The farther history is given in the reports of the pension examiner above, and extends through a period of seven years, during which time there were two perineal fistulae, besides the urethral fistula in front of the scrotum, with an occasional slight eruption from the old wound of exit in the gluteal region. He has been able to work on a farm during most of this time. On the 11th of Dec., 1877, a detached fragment was removed through the perineum by operation. It was evidently from the inner table of the body of the ischium on the right side, through which bone, the ball passed. Its size and appearance are shown in this cut.

In removing it, the two perineal fistulae were united by incision, making an external opening in size and location not unlike what would be made for the lateral operation for stone, only on the right side. The fistulous tract was followed and the fragment was found to be lodged above the deep perineal fascia near the prostate gland, where it had descended from its place of detachment. Another fragment of bone was now discovered evidently enveloped by a firm fibrinous deposit, and adhesions involving the prostate gland. It had caused a small opening into the prostatic portion of the urethra and sometimes could be felt by the sound as it passed this point. Its removal was considered impossible without inflicting a greater injury than its presence seemed likely to cause, the whole of the prostate gland being involved in what

seemed to be a fibrinous deposit around the foreign body. At the present time, two months after the removal of the piece of bone, the opening in the perineum has almost closed, and a little sense of fulness and irritation in the region of the neck of the bladder and prostate gland is now the only source of discomfort.

That such a foreign body as a necrosed spicula of bone could work its way from a distance, and, in its incomplete attempt to make its escape from the body, should, with so little harm, remain lodged in the substance of the prostate body, is worthy of record. Another point in the case is, that for nine years these fragments of bone, although detached at the time of the gun-shot wound, remained in their places without causing any suppurative inflammation, and at length becoming dislodged, abcess and fistulæ resulted. The whole case is one illustrative of nature's ability to guard against damage and repair injury.

THE Bureau County Circuit court, at Dover, Ill., recently disposed, in the March term, of a suit for damages instituted by a Miss Sansom, of Malden, against Peter Martin, formerly of the firm of Hopkins and Martin, druggists of that place. It was proven in court that the lady sent a small boy to the apothecary's for some arsenic, which she had been in the habit of taking for neuralgia. Soon after swallowing the usual dose of the material sent her by the druggist, the plaintiff became seriously ill, and was near dying in convulsions. She swore that these symptoms have since recurred on several occasions. The medicine was proved to be strychnia instead of arsenic. Suit was instituted, as before stated, and a verdict of damages awarded the plaintiff to the amount of $1,050. Such is the just recompense for the ignorance of a man who, in order to sell liquors, pursued the business of a druggist, and who, when upon the witness stand, could not tell how many ounces made a pound of apothecaries' weight.

Clinical Reports.

UNITED STATES MARINE HOSPITAL, SAN FRANCISCO.

Dermoid cyst.—Removal by knife.—Recovery.

Erichsen, in his work on surgery, devotes a short paragraph to the subject of dermoid cysts, and states in substance, that these tumors occur occasionally; that they are congenital, and usually contain fœtal *débris*, as bone, hairs, etc.; that, finally, they are most frequently met with in the abdomen, about the face, within the skull, and in the lung, but never in connection with the extremities.

The following case may therefore be of interest by reason of the rare occurrence of this form of tumor.

The patient, Jno. Peters, æt. 27, a seaman, was admitted to the United States Marine Hospital last November, suffering from a mild attack of scurvy. An inspection of his body disclosed an immense tumor in the lumbar region, elastic and compressible, measuring 25 inches in one diameter, and 16 inches in the opposite. The patient stated that the tumor had existed since birth, when it was the size of an orange, and had gradually enlarged up to the present time. It had given him no inconvenience, except by its weight, for which reason he anxiously desired its removal. The following month, the patient having meanwhile recovered from his scurvy, Surgeon-in-charge C. N. Ellinwood, tapped the tumor to ascertain the nature of its fluid contents, withdrawing about three pints of a chocolate colored fluid, which on analysis proved, *not* to be cerebro-spinal, hence showing no connection with the spinal cord. The tumor was then removed at its base by the knife and galvanic cautery. The

semi-solid contents remaining after the tapping, consisted of fatty matter and fœtal *débris*, principally hair, about 4 inches in length, growing from the interior of the tumor, the base of which was lined by a cuticular surface, studded with sebaceous glands, etc. The patient made a rapid recovery, and was discharged from the hospital, Feb. 16, 1878.

Diffuse popliteal aneurism.—Amputation of leg.—Recovery.

F. Grimes, æt. 32, colored, admitted to the hospital February 28, 1878, states that about two months ago, after more than usual exertion, he noticed a pulsating tumor in the left popliteal space. The tumor continued to grow in size, causing severe pains in the leg, but still the patient did not seek medical advice, but treated himself by using different liniments and patent medicines. Finally, about 10 days previous to his admittance, after sudden exertion, he felt something give way, and his leg became so much enlarged as to render him entirely helpless. On admission to the hospital, the left leg was found to be three times the size of the other, cold, brawny, and hard, the integument moreover showing strong signs of beginning mortification. In the popliteal space a tumor existed, which was solid and elastic, but without pulsation, confirming the diagnosis of diffuse popliteal aneurism.

The extravasation of blood evidently extending from the areolar tissue of the ham down to the foot, with no circulation in the limb by reason of the pressure of the effusion, and gangrene setting in, amputation of the leg remained as the only resource of saving the patient's life. Accordingly, Professor C. N. Ellinwood amputated the leg at the junction of the lower and middle third of the thigh. A dissection of the amputated leg showed complete obliteration of the popliteal vein, with disintegration of the deep fascia and muscles on the back of the leg, and complete rupture of the tendo achillis. The clots of blood within the aneurismal cavity, weighed five pounds. The patient, who is still under observation, made a splendid recovery, and will be discharged from the hospital this month.

EDWARD J. DOERING, M. D.,
Assistant Surgeon U. S. Marine Hospital Service.
SAN FRANCISCO, April, 1878.

NOTES FROM PRIVATE PRACTICE.

Cancer of Stomach and Liver.

Wm. C. J., aged 47, merchant, a resident of Nebraska, began to experience severe gastric pain in March, 1877. The attacks of pain recurred at irregular intervals, varying from two or three days to as many weeks; they were somewhat mitigated by moderate pressure, as in leaning over the counter; they were accompanied by considerable nausea and occasionally by vomiting.

No examination being made at the time, the disease was supposed to proceed from gastric irritation or dyspepsia; and for several months was treated in accordance with that supposition.

No improvement taking place, it was thought expedient that he should return to his old home in Illinois.

When first examined by me (Sept. 13, 1877) he complained most of distress from abdominal distension occasioned by ascites. The appetite was poor, but he had no nausea; pulse 80 to 84 per minute and weak. He was emaciated and feeble but able to walk about. Bowels regular (occasionally loose), urine natural in appearance, though inclined to be scanty.

His complexion was of that peculiar saffron hue common in patients where the cancerous diathesis obtains; how much this hue was dependent upon that diathesi in our patients, and how much upon obstruction of function in the liver, we may not now say. His disposition was cheerful and hopeful, expecting a speedy recovery, despite the unfavorable diagnosis — cancerous tumor in the vicinity of the stomach.

Palpation of abdomen revealed a nodular prominence about the size and shape of a walnut, three inches inferior to the ensiform extremity of the sternum; from this eminence a hard, irregular surface extended toward the left side, disappearing under the adjacent costal cartilage. Inferior to the left thorax, and on a line with the corresponding nipple the irregular surface could be distinctly felt.

Deep pressure revealed a smooth surface in the right hypochondriac region.

The abdomen was considerably distended by fluids which seemed to interfere with his appetite, and also prevented an extended dorsal decubitus.

The ankles and feet were very œdematous, pitting on pressure.

The treatment consisted at first in painting the integument over the tumor with the tincture of iodine (which was continued throughout this illness, whenever the condition of the skin would permit). Considerable relief seemed to ensue from these applications. Tonic powders of cinchona, lacto-peptine, bismuth, and lactate of iron, were also exhibited.

Sept. 17.—The ascites still continuing, diuretics were administered, and fomentations of digitalis leaves applied over the abdomen.

Sept. 22d.—Distress from abdominal distension still persisting, it was thought expedient to remove the fluid by aspiration. By means of Mathew's apparatus, about six pounds of amber-colored serum were removed, the puncture being made midway between the umbilicus and the symphysis pubis.

This operation afforded considerable relief to the patient, who was thus enabled to assume the dorsal decubitus, which had been impracticable for six months on account of the pressure.

Sept. 24th.—Appetite and digestion much improved.

Sept. 28th.—Is troubled with pyrosis, nausea, and subsequently by vomiting; these symptoms are much relieved when he lies in such a manner that the tumor does not press directly upon the stomach. No signs of reaccumulation of fluids in abdomen. As the patient seems much debilitated from weakness of the stomach and want of proper nutrition, rectal alimentation was resorted to by administering eggs, whisky, and beef tea, which seemed to revive the patient, materially improving his strength and general appearance.

Emaciation and absence of ascitic fluids, render it easy to examine the tumor, which has become less painful, and is easily moved in various directions, even by the patient himself. Numerous fissures could be readily detected traversing the tumor in various directions—the *sulci* between masses of cancerous enlargements.

Oct. 1.—Vomited matter slightly tinged with bile. This act

prostrated him exceedingly, and recurred every two or three days, rendering the patient still weaker.

Oct. 8.—Nourishing enemata fail—returning undigested. An excellent substitute was prepared in the following way: Two or three ounces of raw beef were thoroughly triturated in a mortar, slowly adding a little water, till nearly all the red portion of the meat had been dissolved out, leaving the white fibrous portion, which was separated from the former by straining through muslin.

To the solution thus prepared, pepsin was added; and the whole gently warmed and thrown into the rectum.

The beneficial effects of this mode of nourishment became manifest in less than an hour, proving to be very refreshing and strengthening to the patient. These injections were repeated every three or four hours.

On the 10th, the bowels moved in such a way as to exhaust him exceedingly. As he exhibited symptoms of rapid failure, and in order that he might survive until the arrival of his wife, it was deemed advisable to prolong life, if possible, by means of transfusion of blood.

Accordingly, on the 12th, Mr. O. E. Bowers, a strong, healthy soldier, who had upon two previous occasions furnished blood for a similar purpose, presented himself, willing to provide the requisite amount of blood.

With the assistance of Dr. C. T. Fenn, of Chicago, the operation was performed, after the immediate or direct method, as follows: The apparatus was first completely filled with warm water; an incision was then made into the right basilic vein of the donor, cording the arm above the point, a corresponding opening was made in the right basilic vein of the patient, without cording the arm. The transfusion apparatus was then adjusted by inserting the canulæ filled with water into the veins of donor and patient respectively. The rubber tube and bulb (filled with water) were adjusted to the canulæ (care being taken that air should not enter any portion of the apparatus). Compressing the donor's end of the tube, the water in the apparatus was forced into the patient's vein; compressing the patient's end of the tube, and allowing the bulb to expand, blood from the

donor was thus drawn into the instrument, and thrown into the patient's vein in the manner described above.

In this manner, three and one-half ounces of fresh blood were transfused, when we were obliged to stop the operation in consequence of some obstruction in the tubes.

The patient expressed himself as feeling stronger, better able to breathe, and to have acquired a new lease of life. The pulse, which before the operation, was very weak, subsequently became strong, full, and regular.

This sense of strength, however, soon began to die away—the pulse becoming almost imperceptible, until about ten hours after the operation, when he gradually revived again, and with unusual strength, proceeded to transact business affairs, greeting and conversing quite naturally with his wife and children, who had recently arrived, even then expressing great hopes of eventual recovery.

In two or three hours the bowels moved again, prostrating him exceedingly, and at 9 a. m. on the 13th, he vomited with great effort a very tenaceous, greenish matter, containing purulent masses. After this he sank gradually, without consciousness, dying at 3:10 p. m.

Autopsy, nineteen hours after death. No marked *rigor mortis*; great emaciation. Palpation and percussion revealed a tumor occupying the space already described, dullness on the right side, commencing at the sixth rib, on the left at the eighth.

On opening the abdomen, the tumor was seen to be an enlarged liver, extending over the epigastric region into the left hypochondriac. It was filled with a large number of white scirrhous masses, varying from the size of a grape seed to that of a large egg. Many of the larger ones projecting from the surface of the liver, presented points of commencing disintegration. One of these, immediately inferior to the ensiform cartilage, was quite prominent—easily examined during life. The intestines were empty, and at various points adherent to the inferior surface of the liver.

The weight of the latter organ was eight pounds nine ounces.

A large portion of the stomach, involving its pyloric extremity,

was firmly adherent to the liver, the pancreas and various adjacent tissues, including those investing the abdominal aorta and spinal column, the media of this union being tough irregular bands of cancerous tissue, firmly binding into one ragged mass, the organs and membranes mentioned. Considerable force was required to tear them asunder.

The tissue of the pylorus was transformed into a hard gristly tube, one and a half inches in length, through which the index finger could be thrust.

Right heart œdematous, valves normal; both ventricles contained large shreds or clots of white fibrin; spleen and kidneys, normal.

This case presents two or three points of interest:

The use of the aspirator in fluid accumulations in the abdomen. Attempts had been made to cause the removal of the fluid by exhibiting diuretics; we were partially successful in the use of apocynum cannabinum, but it was evident that the waning strength would not permit the long continued employment of this mode of treatment. Hence the necessity for this operation.

The utility of rectal alimentation, when functional or structural derangement of any portion of the alimentary canal exists, is fully demonstrated in this case. Two other cases have come under my observation, in both of which the prospect of recovery seemed very forbidding, owing to the extensive chronic gastritis, in consequence of which the system was insufficiently nourished. But by judicious preparations and use of raw beef, as above described, the diseased organ was allowed to rest, recovery ensuing within a few weeks, complete restoration of health and strength in the course of a few months.

The first of these cases was that of a farmer, who had induced a severe type of gastritis from excessive use of alcoholic drinks while residing near Rockford. He was sent to his home on the farm, incurable. When seen by me, on July 3d, 1875, the patient had been able for four or five months, to retain in the stomach but very little nourishment; even water, at times, excited emesis. He was very much emaciated. Giving only powders of cinchona, lactopeptine, and bismuth, by the stomach, nourishment was administered by the rectum. Symptoms of

improvement gradually appeared, and in a few weeks hopes of recovery were entertained. Continuing the above treatment persistently, the patient was discharged cured, Nov. 1st, 1875.

Transfusion. This operation, although incapable of serving as a means of recovery, prolonged existence so that the patient was enabled to adjust his affairs, which evidently could not have been accomplished otherwise. With due caution, the operation may be performed very easily, quickly, and safely.

I shall not hesitate to employ transfusion by the "direct method," whenever sufficiently indicated, as when death is imminent from anæmia or malnutrition.

W. L. RANSOM, M. D.

ROSCOE, March 23d, 1878.

A REMEDY FOR THE ERUPTION PRODUCED BY POISON OAK, IVY AND SUMACH.—Dr. S. A. Brown, U. S. N., Mare Island, Cal., believes that he has found a specific for the eruption caused by contact with poison oak, etc. He writes: "This specific is *bromine*. I have used it with the same unvarying success in at least forty cases. The eruption never extends after the first thorough application, and it promptly begins to diminish. Within twenty-four hours, if the application be persisted in, the patient is entirely cured. I use the bromine dissolved in olive oil, in cosmoline, or in glycerine. The application with glycerine is painful, and, I think, possesses no advantage to compensate for the irritation. The strength of the solution is ten to twenty drops of bromine to the ounce of oil, used by rubbing gently on the affected part three or four times a day, and especially on going to bed at night. The bromine is so volatile that the solution should be renewed within 24 hours of its preparation.—*N. Y. Med. Record.*

Society Reports.

CHICAGO MEDICAL SOCIETY.

Annual meeting, Monday, April 1st, 1878.

President Dr. E. INGALS in the chair; about 40 members present.

The reports of the secretary and treasurer were read.

The election of officers resulted in the unanimous re-election of Dr. E. Ingals as President; Dr. H. M. Lyman as Vice-President; Dr. D. W. Graham, as Secretary, and Dr. Chas. W. Earle as Treasurer.

The propositions submitted by the committee at the last meeting were then taken up, discussed, and adopted by a large majority.

A committee of five, Dr. Lyman, chairman, was appointed to select a central place for the next meeting.

Maternal Impressions and Mothers' Marks, was the title of a paper read by Dr. ROSWELL PARK.

The writer began by calling attention to the antiquity and prevalence of the popular notion that the mental condition of a woman *enceinte* can be transmitted and translated into, or perpetuated by abnormalities in the development of the fœtus, and asking whether there was any theoretical or substantial basis for such belief. As a popular belief it was unhesitatingly received by the more ignorant of the laity of the present day even, and he desired to discuss the subject from the standpoint of sound anatomical and physiological data, and thus give the *exposé* to a fallacy.

To this end he traced the blood current of both maternal and fœtal organizations, showing that at no time, from the inception

of the developmental process, till its completion, was there the slightest direct vascular communication between the two; and further than this, that no corpuscle or particle of germinal matter which could bear any impress, or give any peculiar direction to future growth, could pass through the membranes which the vascular or villous walls interposed. He claimed that the fœtus got its nutritious supply in a crude gaseous or albuminous condition, by osmotic processes, and worked it up *pro re nata.*

While he allowed that all growth depended upon such supply, and that its proper regulation might be, and to a great extent was, under the control of the nervous system—and therefore more or less under that of the mind—of the mother, he insisted that the influence of any derangement of control, or of supply, could not be pre-determined, or estimated in terms of departure from the normal standard. In confirmation of these statements he appealed to the known tendency in cases of abnormality to revert to more embryonic types of growth—to interesting pathological features of these cases, and to the accepted teachings of comparative embryology.

Having disposed of the possibility of influences of this kind through the blood or nutritive supply, he considered the possibility of the transmission of such influences by other means, and quoted Whittaker, Meadows, Küss, Hermann, and others, to the effect that the placenta contained neither nerve nor lymphatic, and that the cord contained neither these, capillaries nor vasa vasorum; and that those who claimed otherwise were the ones who had not investigated for themselves.

He thought one was forced to the conclusion that the ovum and the spermatozöon contained between them all that was to differentiate the particular individual from others of the race, and that it was more truly scientific to acknowledge our total ignorance of the mysteries of heredity than to try to account for them, as too many would do; and he would impose the burden of proof upon those who held a contrary opinion.

The ridiculous features of the subject were then touched upon, such as the intrinsic absurdity, not to say stupidity, of ascribing to accidents or impressions during the later months of pregnancy peculiarities which must have had their origin almost consentane-

ously with that of the embryonic mass, and before the mother was aware of her condition. A number of vices of conformation that must have their starting point thus early were mentioned—as well as many of the various pathological conditions of uterus, placenta, membranes, or ovum, which must certainly lead to some abnormality in the offspring, such as a double monster arising from a double "primitive trace."

The writer then referred to the subjective features of the case, the trying ordeal of gestation, how the mind of one mother was agitated by various and conflicting emotions and anxieties, while that of another never seemed disturbed, and denied that the percentage of marked or deformed children born to those like the former, exceeded that of similarly marked babes born to those like the latter. But, to carry the matter to its legitimate extreme, he asked if anything analagous to the matter of maternal impressions had ever been noticed among animals, and could get no answer in the affirmative. He quoted the investigations of John Hunter and Dr. Fisher (of New York State), who always inquired of patients approaching confinement (altogether more than 3,200 cases), concerning their hopes and fears relative to the subject in hand, and who never found any correspondence between apprehensions and results, nor anything which could in any way tend to substantiate the general idea.

Dr. Park closed by referring to the number of recorded cases which would seem to place the possibility of the subject of the essay beyond the pale of doubt, and said that, although many could be discarded at once as unscientific and worthless, a few were vouched for by men whose names might almost bespeak conviction, and that the most difficult matter was to decide how to receive such cases, how to accord them their proper weight in the argument. He thought that some of them might have happened as pure coincidences, than which stranger ones have occurred. Respecting the remainder, he declared we ought to suspend our judgment. The facts of such cases are so enshrouded in uncertainty, and testimony of interested parties so liable to error, that it was the only just course to pursue. This was not urged in any iconoclastic spirit—but how much better and more straightforward such a course. "Granted that strange vices of con-

formation do occur, we must look (on above grounds) to something deeper and beyond mere desires, caprices or mental impressions, for their explanation."

Regular meeting, Monday, April 15, 1878, at Grand Pacific Hotel.

President Dr. E. INGALS in the chair—fifty members present.

Purpura Hemorrhagica. Dr. N. S. DAVIS read a report of five cases of this disease, which fell under his observation during twenty years of practice in this city.

Four of the five patients were male children, and one only was a female. The four boys exhibited signs of hemorrhagic diathesis (profuse persistent bleeding from insignificant wounds; frequent copious bleeding from the nose) in infancy. At the time of the doctor's visit they were bleeding from the nose, and showed several blood tumors under the skin of their limbs, and numerous petechial spots. Two of the patients belonged to the poorest class; but one was the child of very wealthy people, and two lived in fair circumstances. In regard to treatment, the fluid extract of ergot in moderate doses often repeated, and combined with tincture of digitalis, seemed to control the attack of hemorrhage, to lengthen the period of intermission, and to lessen the severity of subsequent attacks. In his remarks, Dr. D. touched upon the various theories which have been advanced, but none of which offers a satisfactory explanation of the peculiar features of purpura hemorrhagica.

In the discussion following the report of Dr. Davis, Dr. HOLMES related a remarkable case of hemorrhagic diathesis, which lately came under his observation. About one year ago, an apparently healthy old man, with senile cataract in both eyes, was admitted to the Eye and Ear Infirmary. Dr. H. performed the preliminary operation of iridectomy upon both eyes, and though there was more bleeding than usually, he did not suspect there was anything wrong. The eyes recovered quickly, and the patient left the institution after two weeks. In November, he returned for the extraction of the cataract. The operation went off without any accident, except a rather profuse bleeding from the conjunctival flap. The eye progressed favorably until

the third day after the operation. On that day, without any apparent cause, the blood began oozing out of the wound, and continued flowing for nine days in spite of pressure bandage, and the internal use of ergot. The patient then stated that on several occasions he nearly bled to death from slight wounds, and the bleeding always began on the third day.

SOCIETY OF PHYSICIANS AND SURGEONS.

REPORTED BY JUNIUS M. HALL, M. D.

(Regular meeting at Grand Pacific Hotel, Monday evening, April 8, 1878.)

The President, Dr. Wm. H. Byford, in the chair.

Dr. Wm. G. Dyas, read the second paper of a series of four, upon the lymphatic system. It was devoted exclusively to the subject of alimentation, describing and comparing the manner in which the different organisms assimilate nutriment. Commencing from the lowest grade of organic life as it exists in unicellular animals, then demonstrating the gradual steps nature takes to the development of the typical intestinal canal, he proceeded to show the several objects accomplished by alimentation in the formation and maintenance of the individual, and the continuation of the species; to what extent, moreover, the temperature of the organisms depended on it. In connection with this part of the subject, he showed how different organisms were affected by varying degrees of heat, and how the condition of dryness or moisture influenced the result.

He insisted upon the difficulty there was in giving an adequate definition of what constituted animal life as separate from organic life as seen in vegetables, and was of the opinion that, as yet, logically speaking, we must be content with a mere description of the several attributes of both modes of existence, as observed in their more developed forms.

Dr. Sawyer showed a method of using the forceps during the expulsive stage of labor, in order to prevent extension of the head, thus obviating to some extent the danger of lacerating the perineum.

A letter was read informing the society that the Chicago Medical Society, at its last meeting, adopted the report of the joint committee of the two societies, recommending union and a central place of meeting.

After considerable discussion as to the advisability of disbanding this society, it was decided to defer final action to a future meeting.

THE Illinois State Board of Health has decided to issue, as soon as it can be prepared, a directory of all the practitioners in the State, giving their legal status, with other information of importance. This step is prompted by the frequent queries with regard to the standing of practitioners, and is absolutely necessary to give efficiency to the "Act to Regulate the Practice of Medicine." It will contain over 5,000 names. About 4,500 certificates of the different kinds have been issued. Two have been revoked, and no doubt more will be. There are now nearly 300 cases undecided. More have applied than was expected, and the desire has been general to get certificates, even by those who were not compelled by law to do so. In some of the counties, both laws are carried out, owing to the interest taken in them by the profession, and the hearty co-operation of county clerks. As far as can be learned, about 1,100 have left the State or abandoned practice.

THE Third Annual Session of the State Medical Society, of Arkansas, will be held in Fort Smith, on Wednesday, May 1st, 1878. This organization already numbers over two hundred and thirty members, engaged in the practce of medicine in the State. All graduates of medical colleges and universities in good repute with the American Medical Association, interested in the progress of Medical Science, are invited to attend and join the organization.

Reviews and Book Notices.

SPINAL DISEASE AND SPINAL CURVATURE; Their treatment by suspension and the use of plaster of Paris bandage. By Lewis A. Sayre, M. D., etc., etc.: London, Smith, Elder & Co.; Philadelphia, J. B. Lippincott & Co., 1878.

This little volume of 121 pages, dedicated to the British physicians and surgeons who accorded such a generous reception to the author during his late visit to England, has the merit of presenting in a convenient form full directions respecting the mode of application of the plaster-jacket in spinal curvature. It is embellished with eighteen photographs and seventy wood cuts, which not only serve to illustrate the principles to be observed in the application of this dressing, but also the practical results obtained by its use in the case of patients. Many of the cuts are those which have already appeared in the author's recently published lectures on Orthopedic Surgery.

It is needless, at this late day, to explain to our readers Professor Sayre's method of enveloping the trunk in a shell constituted of plaster and "cross-barred wiggin,"—often reinforced by vertical strips of perforated tin or other metal—as a result of which support is obtained that relieves the articular faces of the vertebræ in Potts' disease from the injurious results of pressure. Still less, perhaps, is it necessary to observe that the benefits obtained by the adoption of this method of treatment, have exceeded the most sanguine hopes of those who have employed it. The numerous papers which have appeared in the medical journals, Prof. Sayre's public demonstrations of its utility, as well as his practical exposition of the subject in his lectures on Orthopedic Surgery, and his report published (and reprinted) in the Transac-

tions of the American Medical Association for 1877, have fully satisfied the demand for clear and definite information on the subject.

We do not propose to discuss the attempts which have been made to detract from the reputation of the author by charging that he was not the first to suspend a patient and then to completely surround the body with a plaster cast. Very recently, and, unless we are mistaken, since the author's return to this country, the attempt of this character on the part of Dr. Bryan, of Kentucky, has been succeeded by another in behalf of some German practitioner, who has long used the identical swing employed by Prof. Sayre.

There should be, at this day, few inventors and discoverers who are not fully prepared to encounter charges of this sort. There is nothing new under the sun; and in point of fact, no man ever really originates anything. The history of the discovery of anæsthesia is a striking commentary upon the fact that when men's minds are generally intent upon a problem, several individuals will simultaneously so nearly reach the solution, that it is well nigh impossible to adjudicate between their rival claims.

We are only surprised, in this present matter, that a man so robust, physically and mentally, as our author, should have thought it worth his while to take up the cudgels in self-defense on the question of priority. To the professional world it is a matter of very small moment indeed, whether Dr. Bryan first suspended his patient from the gas pipes of Bellevue Hospital, or whether some other hospital interne preceded him in doing this. All the honor, all the credit, all the immense prestige to be gained from a quick and clear appreciation of the value of encasing the entire trunk in plaster, of giving public demonstrations of its practical value, of clearly and vigorously presenting its claims to the profession and the world at large, and of finally placing the method in the high position of a received and accepted procedure—all this belongs justly and legally to Prof. Sayre. It is his, and no man can take it from him. He deserves every word of the whole-hearted encomiums of his professional friends in England, many of which were uttered with the mute commentary

of tears. His name will always be inseparably associated, the world over, with the plaster of Paris jacket, all critics, rivals, claimants and even enemies to the contrary notwithstanding. We believe it is not exaggeration to say that the honor is one in which every American surgeon may feel an honest pride.

J. N. H.

TRANSACTIONS OF STATE MEDICAL SOCIETIES.

1. *Transactions of the Medical Society of the State of Pennsylvania*, at its twenty-eighth annual session, held at Harrisburg, June 13, 1877, pp. 428.
2. *Transactions of the Twenty-second Annual Meeting of the Ohio State Medical Society*, held at Put-in-Bay, June 12th, 13th and 14th, 1877, pp. 200.
3. *Transactions of the Eighth Annual Session of the Medical Society of Virginia*, held in Petersburg, October 23d, 24th and 25th, 1877, pp. 192.
4. *Transactions of the Canada Medical Association*, tenth annual meeting, Montreal, Sept. 12th and 13th, 1877, pp. 244.

1. The larger portion of the *Transactions of the Pennsylvania Society* is made up of reports from the county medical societies on topography, meteorology, mortality, and prevalent diseases in the different counties.

Dr. P. D. KEYSER presented the result of his examinations of eyes affected with conjunctivitis and blepharitis ciliaris, in regard to the presence of refractive errors. Finding either hypermetropia or astigmatism in every case, he concludes that ametropia is a very common cause of these inflammations of the eye.

DR. BENJAMIN LEE takes occasion to make some very instructive remarks on the *diagnosis of psoas abscess* in connection with the history of a patient who had a well-developed psoas abscess, while "none of the numerous physicians who had examined him had suspected its existence." The patient was a well-developed, thick-set boy of ten years. "When four years old he was attacked with whooping-cough. From this time forward his parents noticed

an alteration in his gait and carriage. He was awkward in his movements and could not run like other children. At two different times he had attacks of severe pain originating in the left side and shoulder and extending around to the spine." In August, 1874, he fell from a hay-mow, the distance was about fourteen feet, and the brunt of the blow was borne by the left ischium. "Within a month after, he was attacked with acute pain in the left side of the abdomen, in the region of the descending colon. The agony was so intense that he was held on the lap for a week, the only relief being from strong pressure with the hand over the seat of pain." He was treated for "inflammation of the colon." The attack subsided, but a month later it was noticed that his spine was curved to one side. This was pronounced by a surgeon to be "a *trifling* muscular contraction," and the use of Indian clubs and dumb-bells, exercise and fresh air were advised. This was on the day previous to Dr. Lee's first visit. The condition of the patient as found by the doctor, may best be described in his own words: "When I entered the room, the patient was lying, dressed, upon a bed. I observed first, that he rose with great difficulty, turning on to the side before attempting to sit up, and holding his shoulders quite stiff. I requested him to walk, with his clothing still on, and found that he stooped forward considerably, keeping the knees bent, the heels flat on the floor, the left toe pointed in, and the buttocks projected much posteriorly, especially on the left side. He complained of no pain on walking, and could even step down heavily with either or both feet without apprehension. There was a tendency to rest the left hand on the knee of that side. I now directed him to strip, and examined him first standing. I found that when he straightened out the right leg, the left foot was raised from the floor, the hip being much and the knee slightly flexed. The spine was curved forward deeply in the lumbar region, as in lordosis, but without any projection higher up. It was also curved to the right, throw the shoulders towards the left, and depressing that of the left side. I now made him sit down, when, presto! every particle of spinal curvature vanished, and in place of the lordosis, there was the slightest possible bulging of the lumbar spine backward, and a certain rigidity in the prominent tract. It was evident, there-

fore, that the contraction producing the antero-lateral curvature was not in the muscles of the dorsum of the spine and trunk, but in those which flex the thigh on the pelvis, or *vice versa.*"

These muscles are, on the one hand, the proper *flexors* of the thigh, or, on the other hand, the *psoas* with the *iliacus.* Dr. Lee decided against the flexors, "because the trunk was flexed on the thigh, rather than the thigh upon the trunk; in other words, he bent the body forward rather than drew the limbs up;" and from the absence of the characteristic signs of disease of the hip-joint, which contractions of the flexors generally would indicate. The contraction was therefore located in the *psoas* muscle. The patient was caused to lie down on the floor on the flat of his back; and a careful pressure directly above the ramus of the pubes on each side of the abdomen, met on the left side with "a firmly resistant surface, about level with the brim." "This tumor was smooth and even, elastic—under firm pressure presenting a sense of deep-seated fluctuation—and rounding off gradually at its upper end." The presence of a psoas abscess was therefore, demonstrated, "caused immediately by the severe fall alluded to, but primarily by the succussion of the vertebræ and cartilages years before, by the paroxysms of whooping-cough."

The boy was supplied with a well-fitted spinal splint, a spinal swing, and a trapeze, in the use of which he was instructed, and returned home. In November he came back to Philadelphia, with "a well-defined tense tumor of considerable size, below Poupart's ligament." The aspiration was only partially successful, and an injection of salicylic acid and iodine for setting up a healthy action in the cavity, failed entirely. The pus rapidly re-accumulated and made its way along the track of the needle, and the abscess soon discharged freely. Hectic set in with night sweats; but when the patient was removed from his dark, gloomy, and very small room, to a place where he could have sunshine, fresh air, and homely diet, he began to improve so quickly, that "a month after the spontaneous discharge of the abscess, he left for home greatly improved." The systematic use of the swing was recommended, and the wheel crutch added, in order to restore the use of his limbs. "During all this time he was never, *day or night*, without his spinal splint." In May of

last year, the patient was reported as "stronger than he ever was, in perfect health; his back entirely straight; taking the most violent exercises, and never complaining of pain, weakness, or soreness."

Dr. JOHN H. PACKARD found the elastic ligature very useful in the treatment of urethral fistulæ. In a case with three fistulous openings at the perineo-scrotal region, perineal section having been performed, an elastic ligature was drawn through each fistula, and brought through the wound of operation, tightened so as to produce slight constriction, and its ends tied together with a thread. The constriction was renewed every two or three days, as the tissues yielded; they closed up behind the ligature very kindly as it made its way through, and in a few weeks the fistulæ were divided and healed.

The "new" *modification of Syme's operation*, which Dr. W. R. HAMILTON describes, was first suggested by the late Professor Linhart, of Würzburg, in 1856, and has, ever since, been taught and practiced in all medical schools of the European continent.

2. The less voluminous *Transactions of the Ohio Society*, contain a report by Dr. S. S. GRAY, of Piqua, on the so-called *Milk-sickness* in animals. "If left alone, the sick animals stand or lie around for a few days, refusing to eat, and dying soon. But if exercised violently, they are seized with trembling, and in many cases fall down and die suddenly." "The milch-cow is comparatively safe, the poison being eliminated from her system in the milk." And through such milk the disease is spread among other animals; it is communicated to men by the milk and the flesh of diseased animals. The symptoms are languor, variable appetite, gnawing at the stomach, nausea, torpidity of the bowels, stiffness of the limbs, an aversion to exercise, an insatiable thirst and great restlessness. Breathing, slow, with occasional sighing; tongue moist and but slightly coated, pulse normal. The nature of the poison, which when introduced into the stomach with the food, produces these symptoms, is still an unsettled question. It originates only in wild and uncultivated lands; cultivation destroys it.

Dr. J. H. POOLEY, of Columbus, reported four cases of *peri-*

typhlitic abscess successfully treated by incisions. The idea of cutting down into a perityphlitic abscess, was first acted upon by Hancock, of London, in 1848. But though the operation was entirely successful, no one followed his example until in 1867, Dr. Willard Parker, of New York, recalled the attention of the profession to the subject, by the publication of some successful cases. Since that time the operation has often been performed, and is now recognized as legitimate surgical treatment. Dr. Pooley could collect fifty cases with only four deaths.

Dr. JONATHAN MORRIS, of Ironton, adds his testimony in favor of *chloral hydrate as a remedial agent in puerperal convulsions*, in a report of two cases of this kind, in which it was administered with the best result.

3. The *Transactions of the Virginia Society* are published in the January number of the *Virginia Medical Monthly*. The advantages of this plan, over the issuing of a volume of transactions, are so obvious that other societies will probably be quick to follow the "new departure" of Virginia. The addresses, which fill over one-half of the transactions, are interesting retrospects of the recent advances in obstetrics, practice of medicine, hygiene and public health.

DR. J. S. WELLFORD, of Richmond, reports a series of cases of *poisoning by custards and ice creams*. A few hours after partaking of custard pie, not quite fresh, persons were taken sick with vomiting, purging, pain in the bowels, cramps in arms and legs, and general prostration. A boy of two years died ten hours after he was taken sick. The autopsy revealed inflammation of the gastric and intestinal mucous membrane, but no erosions or ulcerations. The chemical analysis, "found sufficient mercury in that portion of the contents of the stomach analyzed, which if it existed in the form of corrosive sublimate, would amount to from 0.35 to 0.5 of a grain, sufficient to cause death." The coroner's jury gave the verdict, "poisoned by mercury," with which opinion Dr. W could not agree; he thought that the custard, which was described by the patient as "bitter, sour and unpleasant to the taste," had undergone some decomposition in its albuminoid articles, which caused the irritation and inflammation of the intestines.

Dr. Martin L. James, of Richmond, contributed an interesting paper on *heart-clots*, reporting three cases which had fallen under his observation. The first patient was a woman of forty-three years; for several years she had been suffering from indigestion, frequent spells of diarrhœa, and congestion of the liver, and had become very anæmic and emaciated. But all this time, frequent and careful examinations had found all the organs and functions, other than the digestive and nutritive, in perfect health. On the 18th of January, 1871, a season of the most distressing nausea supervened, continuing for several days, and to a greater or less extent to the close of life, which occurred eight days from that time. During the night of the earlier portion of this season of nausea, the most remarkable cardiac murmur was developed. "It was heard over every portion of the chest, front and rear, and distinctly at a distance of four feet from the bed, the patient herself and all of the attendants hearing it. It was a constant vibratory and somewhat musical murmur, heard with the first sound of the heart, or to speak more properly, supplanting the first sound of the heart, highest pitched at its earliest portion, somewhat resembling the *frémissement cataire* of the French, but resembling to a striking degree the chirping of a young chicken. * * When, however, the ear was applied closely to the chest, it was found to be blended with a bellows murmur, of some roughness of tone. It continued uninterruptedly to the time of the patient's death, though toward the close of life, as the heart became enfeebled, it was heard with less intensity." The autopsy showed the structure of the heart in all respects normal; but a flattened fibrinous clot, of considerable firmness at the time of its removal, white in color, with a slight shade of buff, and homogeneous in structure, was found extending from the apendix auriculæ of the right sight, intertwined with the musculi pectinati running through the auriculo-ventricular opening into the ventricle, where it became entangled with the chordæ tendineæ and columnæ carneæ, being altogether about five inches in length, one inch and a quarter wide, and three lines in thickness.

The other two cases gave a similar history; the presence of heart-clots was diagnosticated from the presence of that peculiar

chirping murmur, and the diagnosis was, in both cases, confirmed by the autopsy.

DR. WM. SELDEN, of Norfolk, reports four cases of intra-capsular fracture of the femur, which resulted in bony union.

The value of *iodoform* as a local application in syphilitic, scrofulous, and indolent ulcers, is demonstrated by Dr. J. E. Chancellor in a transcript of some cases.

4. In the *Canadian Transactions*, a typical case of Addison's disease is reported by Dr. GEO. ROSS. The autopsy found all organs in a normal condition except the supra-renal capsules. These are enlarged, nodular, and firm to the touch. On section they show several larger and smaller caseous nodules.

DR. JOSEPH WORKMAN expresses his surprise that *acetate of lead in large doses* is not oftener employed in severe post-partum and other hemorrhages. Given "several drachms in the course of a few hours," it is the most efficient hæmostatic, and its use was never followed by any evil constitutional results.

DR. AD. ALT has examined a dozen *epithelial tumors of the anterior third of the eye-ball.* In regard to epithelial growths of the cornea, he states that they "do not seem to originate indiscriminately at any part of the corneal tissue, but only at the corneo-scleral junction." The first evidence is an excessive cell-formation in the epithelial layer of the conjunctiva or cornea. "This hyperplasia, acting like a foreign substance, keeps up a constant irritation of the underlying tissue, which leads to inflammation and destruction of the latter, and enables the epithelial cells to invade it. The epithelium grows into the mother-tissue in the shape of cylinders, which, by branching off form secondary and tertiary cylinders, and so on."

Considerable diversity of opinion exists at the present time as to the justifiableness of the operation of *excision of the knee joint.* Dr. GEO. E. FENWICK puts in a good word in favor of the operation, and sustains his opinion by the report of thirteen cases which were operated upon in the Montreal general hospital between 1865 and 1877, with the following result: Cured, 9; doubtful, 1; died of pyæmia, 1; amputated, 2.

F. C. H.

CEREBRAL HYPERÆMIA. By William A. Hammond, M. D., late Surgeon-General U. S. army; Professor of Diseases of the Mind and Nervous System in the Medical Department of the University of the city of New York, and in the Medical Department of the University of Vermont; Fellow of the College of Physicians of Philadelphia, and of the Academy of Arts and Sciences, Boston; Member of the Academy of the Natural Sciences of Philadelphia; of the American Philosophical Society; of the New York Neurological Society; of the American Neurological Association; Corresponding Member of the British Medical Association; Member of the Medico-chirurgical Society of Edinburgh, etc., etc. New York: G. P. Putnam's Sons, 182 Fifth avenue. 1878.

The pamphlet thus indicated, is an expansion of an essay read not long since before the New York Neurological Society. It must be confessed that, considering the immense array of titles adorning the title page, the work itself does little to justify the reputation of its author. Instead of a clear, sharp picture of cerebral hyperæmia, we are treated to a confused and hazy panorama of symptoms, which may be occasioned, many or all of them, by a dozen different conditions of physical disorder; and when the reader begins to look solicitously for some fixed point upon which to plant himself, he is blandly assured by the insinuation that, though it may be difficult for the inexperienced to distinguish the truth among so many contradictions, it is easy enough for the skillful. There is, also, a great and unnecessary parade of learning—an almost garrulous wandering at random over the whole field of cerebral pathology—which, though utterly useless to the student or practitioner who may read, cannot be deemed wholly without value if this were a book to slip into the hands of such of the laity as might need to be impressed with the profundity of the learning of its author. In fact, it is doubtful whether such people could peruse many of its pages without being incontinently filled with the belief that cerebral hyperæmia is the one precise and all sufficient cause of all their little aches and pains; and that their ordinary physician, who hints at cigars, wine, improper meals and their like, is most decidedly an old fogy of the worst kind. On the other

hand, it will be equally impossible for that same old fogy to repress a growing suspicion that the work in question, is the offspring of a brain in which cortical degeneration is gradually taking the place of cerebral hyperæmia. H. M. L.

TRANSACTIONS OF THE NEW YORK PATHOLOGICAL SOCIETY. Volume second. Based on the proceedings of the year 1875, and largely supplemented from the records of 1844 to 1877. Edited by John C. Peters, M. D., President of the Medical Society of the county of New York. New York: Printed for the society by Wm. Wood & Co. 1877.

This volume of nearly 200 pages, is made up of reports on pathological processes in the organs of the abdominal cavity. It contains the reports of 208 cases of diseases of the intestines; 23 cases of malignant diseases of the peritoneum; 13 cases of diseases of the pancreas; and 58 cases of diseases of the liver.

The committee on publication and the editors, wished to make each volume of these transactions "a valuable book of reference in most of the great emergencies of medical and surgical practice, and also in the recognition of obscure cases." They have ably acquitted themselves of their task in the present volume. The systematic order in which reports on diseases of the same organs, and records of similar cases are grouped together, is well adapted to the great purpose the editors aimed at, making the consultation of the work easy, attractive, and instructive.

INJURIES OF THE EYE AND THEIR MEDICO-LEGAL ASPECTS. By Ferdinand Von Arlt, M. D., Prof. of Ophthalmology in the Imperial University, Vienna. Translated by Dr. Chas. S. Turnbull, M. D., etc. Philadelphia: Claxton, Remsen & Haffelinger. 1878.

Whatever is written by so eminent a man and close observer as Prof. Arlt, is always worthy a most careful study. The present work is intended more for the surgical practitioner than the physician or student. It was originally published in separate articles in the *Wiener Medicinische Wochenschrift*, and the very favorable notices which they received, and the great demand for them, caused the author to publish them in book form. He divides his subject into three classes:

1st. Injuries produced by sudden compressson or concussion of the eye.

2d. Injuries produced by the entrance of a foreign body not acting chemically.

3d. Scalds and corrosions of the eye ball.

He also devotes one chapter to simulated diseases. A class of diseases very rarely seen by American practitioners. The translating and printing are creditably done. L. W.

BOOKS AND PAMPHLETS RECEIVED.

Cyclopædia of the Practice of Medicine. Edited by Dr. H. Von Ziemssen, Prof. of Clin. Med. Munich, Bavaria. Vol. XVII. General Anomalies of Nutrition and Poisons. By Prof. H. Immerman, of Basel; Prof. R. Boehm, of Dorpat; Prof. B. Naunyn, of Kœnigsberg; and Prof. H. Von Bœck, of Munich. Albert H. Buck, M. D. American editior. New York: Wm. Wood & Co. 1878. 8 vo., cloth; pp. 968.

Handbook of Ophthalmology. By Prof. C. Schweiger, of the University of Berlin. Translated from the third German edition. By Porter Farley, M. D., Rochester, N. Y. With diagrams and other illustrations. Philadelphia: J. B. Lippincott & Co. 1878. 8 vo., cloth; pp. 546. Price, $4.50

On the Source of Muscular Power. Arguments and Conclusions drawn. from Observations upon the Human Subject under Conditions of Rest, and of Muscular Exercise. By Austin Flint, jr., M. D. New York: D. Appleton & Co. 1878. 12 mo., cloth; pp. 103. Price, $1.00.

Montreal General Hospital; Pathological report for the year ending May 1st, 1877. By Wm. Osler, M. D., of McGill University. Vol. I. Montreal: Dawson Brothers. 1878. 8 vo., cloth; pp. 97.

The Vest-pocket Anatomist (founded upon Gray). By C. Henri Leonard, A. M., M. D. Multum in Parvo. 2nd enlarged edition, sixth thousand. Copyright, 1875–1878. Detroit: 1878. Price, 50 cts.

Transactions of Iowa and Illinois Central District Medical Association, at the Meeting held in Board of Education Rooms, April 11, 1878, Rock Island, Illinois.

The Therapeutical Society of New York. (Reprint, with additions from the *New York Med. Journal*, Feb., 1878.)

A Review of the Treatment of Fracture of the Femur. By Edward Birch, M. D. (Reprint from the *St. Louis Med. and Surg. Journal*, March, 1878.)

Medical Organizations and their Value. An address delivered before the Alumni Association of Jefferson Medical College, March 9, 1877. By William B. Atkinson, M. D. Published by order of the Association.

Annual Announcement of Lectures at Toland Hall, Medical Department of the University of California, San Francisco. California Session of 1878.

Summary.

Obstetrics.

Laparo-Elytrotomy.—Dr. T. G. Thomas. (*Am. Jour. of Obstetrics*, Apr., 1878.)

Dr. Thomas devotes some space to a historical sketch of the surgical procedures resorted to in order to save the life of the mother or child when delivery *per vias naturales* is impossible, considering the dangers, feasibility, and humanity of each. He discards statistics of such operations entirely, inasmuch as the successful cases only are usually reported.

With regard to the operation which he makes the subject of his paper, he says that since he fully elaborated his own idea of it, his attention was called to the fact that a very similar method was employed in one case by Ritgen, who suggested it in 1820, as a modification of one proposed by Jörg. To Dr. T., however, is due the credit of having independently conceived it, of having proved its practicability by operation upon the cadaver—the subject of the experiment having been the body of a woman who died in the ninth month of her pregnancy; and finally of having twice performed the operation with results not so easily attainable in any other way.

His first case was that of a woman *in articulo mortis* (result of pneumonia), where the chief object was to save the child if possible, and at the same time render the mother's closing hours free from the agony of labor. This result was readily accomplished; but the child proved to be premature and deformed, and died about the same time with the mother.

He then records three cases by Dr. Skene, of Brooklyn—one where craniotomy had already been done, and where the mother

survived the operation some hours, finally dying of exhaustion from her prolonged labor, and two where both mother and child were saved. A fifth case (Dr. T.'s second) was also thus doubly successful; thus making a total of three mothers saved, and four children delivered alive out of the five cases; a remarkable record.

Comparing his own operation with the others alluded to in the introductory part of the paper, he finds that the dangers of metritis, peritonitis, and incarceration of the intestines in a uterine rent, are entirely obviated, while those of shock and septicæmia are very much diminished. There is a possibility of cellulitis, and three of the above cases were complicated by fistulous openings in the bladder, which proved, however, a comparatively trivial matter, and partly the result of insufficient experience. The great danger is that of hemorrhage. This has not yet been encountered, but there is reason to fear it.

With regard to the details of the operation, and points chiefly to be observed, they are briefly these: the operator should be provided with pocket case, anæsthetic, Barnes' dilators, and some actual cautery appliance. The patient, fully anæsthetized, must be placed upon a firm table, and the os fully dilated by appropriate measures. An incision is then made from the anterior superior spine of one ilium to the spine of the pubis, just above and parallel to Poupart's ligament, and carried through the muscles and soft parts to the peritoneum; this will be found ample and movable, and must be lifted up and back. A sound or other guide in the vagina is then cut down upon, the vaginal wound sufficiently enlarged, and the child delivered by version, if an arm or the head present, by extraction if the breech do so. Then, the placenta having been delivered, the uterus is caused to fully contract, suitable measures are taken for stopping hemorrhage, and interrupted silk sutures introduced to close the abdominal wound. Observance of the usual precautions familiar to all surgeons, will, in all probability, insure a happy result.

THE TWINS OF ST. BENOIT. (*L' Union Médicale du Canada.*)

We visited, a few days ago, the freak of nature which has for a short time past been on exhibition to the Montreal public. This consists of a peculiar modification of twins—two heads,

necks and thoraces, and four arms; one abdomen, and two legs. The trunks blend together in the most curious way. The upper part of the trunks are quite distinct, but at the juncture of the thoraces with the abdomen, the two become united, so that whilst it is evident that there are two thoraces, there appeared to be but one abdominal cavity. The angle formed by the division above the abdomen is 125°, that is the thoracic axes are at an angle of about 60° with the abdominal axis. From the pelvis down, the parts appear quite natural. At the first glance, the abdomen, which has only one navel, seems to manifest nothing more than an unusual development. But on more attentive examination, it is evident that the intestines are quite distinct for each trunk. This is manifest, because when one side coughs, makes a long inspiration, cries, or defecates, the abdominal agitation is only visible on one side, while the other side remains tranquil. Moreover, when certain movements are made, a slight ridge in the median line is manifest through the whole abdomen, which indicates the division of the separate intestines. But what is remarkable, is that there is only one anus and one vagina, while the acts of defecation and micturition are independent for each side of the abdomen.

The legs—only two—are not associated with the same nervous system. This becomes evident by an observation of the two when only one is asleep.

The delivery was effected without difficulty; indeed a physician was not called. The mother is well and strong, and the progeny promises to live long. The babies are nine weeks old, in good health, and very pretty. The left is a little more plump than the right, but the general health and strength appear to be alike.

CHLORAL IN RETENTION OF URINE.—In the *Gazetta Medica de Roma*, Dr. Tidd narrates a case of the retention of urine relieved by chloral hydrate. A young woman in the eighth month of pregnancy, believed herself in labor, and had not passed her urine for twenty-four hours. The bladder was greatly distended, and projected prominently above the pubes and into the vagina; so much so that it was impossible to reach the neck of

the uterus with the finger. The external organs of generation were excessively tumefied and the suffering great. Morphia was administered, and for fear of rupture of the bladder, puncture was proposed. The proposition was rejected, and the following administered:

℞ Chloral. hydrat. ..... ʒ ijj
Aquæ ..... ʒ ij m.

Sig. One teaspoonful every half hour—later, every two hours.

Deep sleep soon followed, and five minutes after the administration of the second dose the evacuation of urine commenced, the patient being unconscious. Seven days afterwards normal delivery; no further retention.

SUBCUTANEOUS INJECTIONS OF ERGOTINE IN METRORRHAGIA. —(*Journ. de Médecine*, Nov. 1877.)

M. Constantine Paul has made an interesting communication on this subject to the Société de Thérapeutique, reproduced by the *Bulletin général de Thérapeutique*.

The solution he uses, is that of Moutard-Martin, to-wit: water 15 grammes, glycerine 15 grammes, ergotine 2 grammes.

In thirteen cases of metrorrhagia following cancers, or abortions, Paul has seen the hemorrhage cease in from five to ten minutes. In each case, 66 milligrammes of ergotine were injected, that is to say a gramme of the solution.

The advantages of this method are incontestable, and far superior to the use of ergot by the stomach, for several reasons; first, the rapidity with which it acts, a fact of extreme importance when the hemorrhage menaces the life of the patient. Besides, the colic caused by the injection of ergot, is avoided, and finally the effect produced is of longer duration.

TRANSFUSION.—Dr. M'Clintock, of the Dublin Obstetrical Society. (*Dublin Jour. of Med. Sci.*, March, 1878.)

A patient was nearly exsanguinated by flooding during labor. When Dr. M. reached her bedside, he found her in a most alarming condition, insensible and almost pulseless. Examination revealed a leg in the vagina. He at once delivered the

child, which had evidently been dead but a short time. Up to the time of his visit, she had been in labor five hours. In spite of every precaution and effort, including the hypodermic use of sulphuric ether, she did not rally—the surface being cold and clammy, and the pulse barely perceptible. Transfusion offering the only hope, he sent for Dr. McDonnel, who brought with him the apparatus bearing his name. Nine hours after delivery, the operation was performed, ℥x of blood being taken from the husband and defibrinated, and then slowly injected into the right arm. Immediate improvement in the pulse was noticed, and in a few hours there were most encouraging indications of reaction. Convalescence was perfectly satisfactory.

The reporter alluded to an equally successful case of Dr. Beatty's, the only difference being that, in the latter case, an interval of fourteen hours elapsed between delivery and transfusion. Thus ample time was given in each case for reaction to assert itself, if it would. Dr. M'Clintock considers that these two cases offer very conclusive evidence of the value of transfusion under similar circumstances and as a *dernier resort.*

Practical Medicine.

Extra-Pericardial Adhesions.—Dr. O. von Widmann. (*Virchow's Archiv* for July, 1877.)

That systolic retraction of the præcordia is not a trustworthy sign of these adhesions is generally believed. The essential factor in the ætiology of this retraction is a change in the position of the heart, with or without adhesions. Inasmuch as the left to right diameter of the heart is shortened during systole, if, for any reason, the organ were so turned as to make this the antero-posterior diameter, there would be a tendency to a vacuum with each systole, and atmospheric pressure might cause the retraction.

Dr. Riegel has called attention (*Berlin. Klin. Wochenschrift*, Nov., 1877) to the fact that, while the apex beat is more decidedly revealed on a cardiogram during expiration than during inspira-

tion, the converse has been observed in several cases of pericardial adhesions to the border of the lung; and he explains it by the inability of the latter to come forward during inspiration, while in expiration they retract upon the pericardium and so impede the heart.

COPAIBA AND CUBEBS IN CROUP.—Dr. Oldoni. (*Annali Universali di Medicina.*)

Five cases were cured by the following treatment:

℞ Bals. copaibæ - - - ℥ss.
Pulv. acaciæ - - - - ℥v.
Aq. menth. pip. - - - ℥iii. m.

Dessertspoonful every two hours.

℞ Cubebæ pulv. recent. - - - ℥ss.
Syrupi (simp.) - - - ℥x. m.

Tablespoonful every two hours alternately with the above. Diminish the dose for children under four years of age.

His cases were very severe in every respect.

FEIGNING FEVER. Sellerbecker, (*Berlin. Klin. Wochenschrift.*)

A peculiar case of feigning in order to secure greater attention is here reported. The chief points are as follows:

A female patient under treatment for stenosis of the heart and ulcer of the stomach:

Temperature found to vary, without apparent cause, from 101 to 103°. Pulse 120 and respirations 20.

The rapidity of the pulse was easily explained, and the doctor, by means of rapid and deep respirations, elevated his own pulse from 75 to 130 per minute.

The elevation of temperature was more difficult of explanation but was evidently effected by deceit. To clear up the point, the thermometer which in the axilla registered 101.1 was placed in the rectum which gave a temperture of only 99.6.

The patient eventually confessed and explained her methods the rectum.

As soon as the nurse had placed the thermometer in the axilla, from pretext of cold she covered herself well, and then drawing the back part of her chemise forward in the axilla, and making of

it a kind of sack in which to envelope the thermometer, she pressed it firmly between the arm and thorax. Then by rapid respiration she produced friction of the thermometer between the folds of her chemise. This she continued until she obtained the desired elevation.

Dr. Sellerbecker, in trying this himself, produced a registration of 114.4°. This effect could not, on account of evaporation, be produced when the thermometer was subject to friction by direct contact with the skin. But when the skin was very dry, in the course of three minutes a temperature of 107.4° was obtained.

It would seem from this circumstance that the temperature in the axilla, when the respirations are rapid and skin dry, should always be corroborated by the temperature in the mouth or rectum.

RESUSCITATION IN POISONING AND ASPHYXIA.—R. Boehm, (Arch. f. Exp. Path. und Pharmacologie. Bd. VIII. p. 68–100).

An injection of 0.1 gramme potassic nitrate, pushed rapidly into the veins of a cat causes, within a few minutes, a sinking of blood pressure, until it becomes zero. Respiration ceases, tetanic spasms set in and death is inevitable. If now artificial respiration is resorted to within 3–4 minutes after the stoppage of breathing, and the expiration is aided by alternate compression of the chest, the mercury of the manometer in the artery can be made to rise 50 to 120 millimeters with each compression; thus an artificial circulation may be maintained. Sometimes 4 to 6 compressions suffice, in other cases it requires 4 to 36 minutes to start the action of the heart, and to keep it up persistantly. This result is due not only to the supply of oxygen thus furnished to the nerves of the heart, but also to a mechanical stimulation of the heart by the compression. Within a time varying from 40 seconds to 54 minutes, the cardiac action is followed by natural breathing.

In apparent death from chloroform, resuscitation too can be effected by means of artificial respiration in those cases only, in which the heart has not yet fully stopped beating. If the latter accident has occurred, compression of the thorax becomes necessary, and even this loses its utility 7 to 19 minutes after the stop-

page of the circulation and 10 to 24 minutes after cessation of breathing.

Sudden deprivation of oxygen (rapid asphyxia) paralyzes the heart much more rapidly. Artificial respiration combined with methodic compression of the thorax must be commenced at the latest 1 to 1½ minutes after stoppage of the heart, in order to succeed as means of resuscitation.

Resuscitated animals show a number of "symptoms of resuscitation from apparent death." Boehm describes them as increased reflex irritability as in animals poisoned with strychnia, in co-ordinated movements, diminished sensibility, blindness remaining for two to three days, probably also loss of hearing, taste and smell, reduction of temperature and finally transitory glycosuria. In general, the animals resemble for a time dogs, whose cerebrum has been removed by the method of Goltz. Similarly as in deep narcrosis, the different organs do not all return to a state of activity at once. The heart first begins to act, next respiration returns, and finally the functions of the brain are re-established.

PATHOLOGY OF CONCUSSION.—M. Duret. (*Société de Biologie.*)

Mere oscillatory disturbances of the encephalon do not offer a satisfactory explanation of the profound symptoms supervening upon a blow upon the head; nor do such blows, when they produce concussion, leave sufficient structural change.

Duret has been able to reproduce *all* the symptoms of concussion, by increasing the tension of the cerebro-spinal fluid, by perforating the cranium, and injecting various fluids.

He cut away the cervical muscles, laid bare the occipito-atloidean membrane, and watched its respiratory pulsations, or recorded them by the graphic method. When he injected fluid, as above, this membrane became tense, and all the clinical manifestations of shock followed; he then punctured it, and allowed the fluid to escape, and all these evidences disappeared.

By such experiments, and by others equally ingenious, he was confirmed in the impression that it was to tension of the cerebro-spinal fluid, and not to changes of the cerebral pulp, that we should ascribe the phenomena of concussion.

SURGERY.

SUDDEN DEATH FROM SEVERE BURNS.—Ponfick. (*Berl. Klin. Wochenschr*, 1877, No. 46.)

P. has studied with F. Schmidt the effects of burns on dogs. Within a few minutes he found the red corpuscles of the blood dividing into an immense number of minute colored particles. These disappeared within a short time, thereby producing changes in the spleen, osseous marrow and kidneys. By the latter organs, the hemoglobine thus liberated in the blood is removed, not, however, without causing inflammation of the parenchyma. Since this sudden extensive destruction of red corpuscles seems to be an important factor in the grave results of burns, Ponfick suggests transfusion as a therapeutic experiment.

DISLOCATION OF THE SPINE.—Dr. T. E. Little, of Dublin Pathological Society. (Rep. in *Dublin Jour. of Med. Sci.*, March, 1878.)

A case of genuine and uncomplicated dislocation of the spine was presented, almost a surgical anomaly.

A lad aged 18, fell, striking on the back of the head and shoulders, on a coal heap. Stunned for the moment, he was able to walk into the hospital ward from the cab. When Dr. L. first saw him, there was complete loss of power of both upper extremities, with diminution of sensibility; muscular power of lower limbs slightly impaired, head somewhat retracted but not rigid, intense pain upon effort to move the head, dejections voluntary, temp. 99½°. No displacement of vertebræ could be detected, even by examination through the pharynx. There was flushing of the surface of the upper parts of the body; a symptom Dr. L. had noticed in other cases of spinal injury. Within the four days following the tenth, the patient developed a well marked case of "Cruveilhier's Paralysis," muscular atrophy of the forearms being complete. There was also a peculiar glossy appearance of the hands (such as has been alluded to by Weir Mitchell).

Subsequently he had symptoms of Binz's "Paralytic fever,"

checked by antiperiodic doses of quinine; and he eventually emaciated, with contractures of lower extremities, but without atrophy. Retention of urine and diaphragmatic respiration, owing to atrophy of the *intercostales*, were accompanying features of the case. He succumbed at last to a gradually increasing apnœa, dying on the eighty-sixth day.

Autopsy revealed symmetrical dislocation forwards of the fifth cervical vertebra upon the sixth, displacement of the articular processes being complete. The anterior and posterior common ligaments were both intact. The spinal canal was narrowed to half its caliber, the point of greatest constriction being—as usual—the exact site of displacement. No microscopical examination of the cord was made. The muscles of the upper extremity were reduced to mere sheaves of connective tissue, with rows of fat globules, and here and there a muscle fiber apparently healthy.

INCISED PENETRATING WOUNDS OF KNEE JOINT—Dr. A. D. Stevens, (*Canada Medical Record, March*, 1878.)

The first case occurred in February, 1873, and was in the person of a boy about sixteen years of age, of healthy appearance himself, as well as his parents. He had been preparing wood for sugar making, and accidently struck his knee with the axe, inflicting a wound about an inch in length upon the upper and outer border of the patella, and exposing the joint to that extent. He did not stop using the injured limb until an active inflammation set in, when my services were asked. Upon visting him, I found all the symptoms of inflammation well marked, and the limb placed in the usual position, with a view of lessening pain. I at once gave him alterative doses of grey powders with Dover, and cold applications were placed upon the affected joint. After the more acute symptoms had subsided, I gave him iodide of potassium, with compound tincture gentian, and painted the knee with tincture of iodine. At this time, I was also able to place a well adjusted splint upon the posterior portion of the limb, in such a manner as to secure perfect rest of the joint, with the limb straightened. But few days passed before the presence of pus in the cavity of the joint was evident, but as the opening made by

the axe still existed, I did not interfere. I turned the boy over upon his belly, when a large amount of pus escaped from the opening.

The remainder of the treatment consisted principally in keeping the limb in the position forced by the splint, and doing for him whatever constitutionally he might require. The joint filled at least half a dozen times with pus, but was as often emptied by turning him over. The patient was kept in bed with the splint securely fastened to the leg till all appearances of disease had left, when he was allowed to use it cautiously. He has to-day as valuable a limb as he ever had.

The second case occurred in the month of August, 1875, and was in the person of a boy about fourteen years old. Like the preceding case he was healthy, and of healthy origin. The cut was made with the axe, as in the former instance, but nearly opposite the site of the other and about the same length. I did not see this boy, however, till suppuration had taken place, so that he had only to be turned over to relieve the joint of its contents. It only filled once, fortunately, and, with the aid of the splint already noticed, and alterative doses of iodide of potassium combined with a bitter tonic, and free painting of the joint, soon all traces of disease disappeared. About the middle of the following October he was able to do full duty upon the farm.

With reference to the third case I promised to speak about, I might say that, like the other two, he was apparently healthy and of robust parentage, while his age was about thirty years. He is married, and his occupation that of carpenter. While working at the frame of a building, his adze, from some cause or other, missed and struck him a blow just underneath, and a little to the right of the patella, causing a wound fully an inch in length, and penetrating the joint. I saw him within two hours of the accident. He had lost only a trifling amount of blood, but the wound was gaping to such an extent that the synovial membrane was visible for more than the length of the cut. Thus you will perceive the cavity of the joint received all the fresh air you could ask for. This fellow I strapped with the ordinary adhesive straps in such a manner as to prevent any motion whatever of the joint, and enjoined him on no account to step upon the foot. He returned

twice afterwards, for a renewal of the dressing, which, with a simple wash of carbolic acid, was all that was required for the cure of the wound. The wound healed by the first intention, and consequently no inflammation supervened, or, in fact, any other untoward event. In less than four weeks he was as well able to work as ever.

These are all the leading facts and particulars of the three cases, with the exception of the passive motion used in order to prevent anchylosis, and which I forgot to mention in the proper place.

THERAPEUTICS.

VASELINE AND SALICYLIC ACID IN OBSTETRICS.—Dr. Dubois. (*Med. Record.*)

Vaseline is a hydrocarbon, made from petroleum by simple evaporation and clarification. It is very cheap, being worth only some forty to fifty cents a pound. It has no taste or smell. Its rôle as a protective against the action of the air is extensive, as in burns, excoriations, etc. It is one of the best of lubricants. Its use is simple, and especially in complicated labors is thus very advantageous. Internally, it seems to relieve irritation of the mucous membrane, and, when taken up by the system, though it undergoes no proper digestion, to act much in the same way as cod-liver oil. As a vehicle for more active agents, it is more generally useful than any other oil-like compound. Salicylic acid has of late come into vogue, and is now used for a great variety of purposes—principally as an antiseptic, to reduce the heat of the body, and in diseases in which there is a morbid material in the blood, as in rheumatism, and gout, etc. It is not expensive, costing from thirty to forty cents an ounce. I have tried several samples of different manufacture, and find that of Rosengarten, of Philadelphia, by far the best, while the German article that I have used has proved caustic and utterly unfit for many purposes. The American acid is in silky, white crystals, like quinine, has no caustic taste, and, mixed with vaseline, makes a homogenous ointment. The German is amorphous,

looks like chalk, has a slight pinkish color and caustic taste, and, mixed with vaseline, makes a lumpy, irritating ointment, unfit for use.

It has been my practice for some time back to use vaseline, with a grain or more of salicylic acid to the ounce, and scented with a drop of ottar of roses, in all vaginal examinations, instead of oil or soap. I believe I thereby more certainly avoid carrying infection from case to case that I should otherwise do. In first confinements it may be used in the first state of the labor, so soon as the woman takes to bed. I make use of a glass syringe, an inch in diameter, without a nozzle. With an instrument of this kind an ounce or more of the semi-solid vaseline can be introduced up to the os, where it remains at the temperature of the body, in a semi-solid state. I use it in this way as a simple lubricant, and without the addition of the acid. If desirable, in certain cases, it can be combined with the extract of belladonna, and, after the labor is completed, with the extract of ergot, or, in case of hemorrhage, with the liq. ferri persulphatis, with all of which it mixes well. If it is desired to introduce it into the uterus, it can be rendered fluid by putting the bottle containing it into water of a temperature of 100° F., when it can be used with the ordinary uterine syringe. In the course of a labor I use three to six ounces, with the effect, as I claim, of shortening the first stage of labor, and rendering the parts, especially in first labors, easily dilatable in the second stage, while, after the placenta is delivered, a small quantity of the vaseline, with the acid added, disinfects the discharges, and does much, it seems to me, to prevent purulent absorption. Indeed, if puerperal fever was prevalent, I should not hesitate to introduce it freely into the uterus immediately after confinement. To illustrate the healing qualities of this combination, I some time ago had an extensive rupture of the perineum in a primipara, due to an unusually large child and an unyielding perineum. I passed two pins through the lips of the wound, and a figure-of-eight around each, and directed the patient to introduce a little of the vaseline ointment two or three times a day on her finger. On the third day after, when I next saw her, on removing the pins I found the wound entirely healed. My cases are not sufficient to base

positive conclusions on, but I am inclined to think that an hour or more can be saved in an ordinary labor by the use of the vaseline, and that the second stage will go on easier owing to a more thorough relaxation of the soft parts, and to the avoidance of unnecessary friction; and that its use, with the acid after labor, will do much to prevent puerperal absorption, and, in any event, will conduce to the comfort of the patient. In dilating the os with the sponge tent, I find that by coating it with the vaseline and the acid (ten grains to the ounce), I can more readily introduce it, the tent not expanding at first, owing to the coating of vaseline; but, if held for a moment or two in place, it will remain without danger of its coming away, and will expand to the same limits that it would have done without the coating of vaseline, as can easily be proved by putting two tents in water, one coated and the other not. In erosions of the os, after the engorgement of the parts is removed by glycerine pads, the vaseline and acid ointment, applied on cotton-wool, will do much to effect a speedy cure, especially if alternated with the glycerine. There is one use for this ointment that I have not fully worked out. Physicians are frequently applied to, to produce abortion. Recently, on the same day, two women came to me; the reason assigned in the one case was that the husband was syphilitic; in the other that pregnancy brought on violent attacks of spasmodic asthma. Of course I explained that the child had rights as well as the mother, but it was all that I could do to prevent one of these cases from going to a professed abortionist. In some cases of this kind prevention is better than cure, and I am inclined to think, from some experiments, that vaseline, charged with four to five grains of salicylic acid, will destroy spermatozoa, without injury to the uterus or vagina.

In conclusion, there are a number of uses for vaseline in the lying-in room and nursery. I make no claim to its being a "cure-all," but it is a great convenience, and its "role" is extensive. The ointment makes a good dressing for the umbilical cord. Vaseline answers better than oil or soap to remove the cerumen from the newly-born infant. Mixed with an equal weight of honey and ten grains of borax or of chlorate of potassa to the ounce, it answers an excellent purpose in case of thrush.

The ointment alone, or mixed with ten grains of quinine to the ounce, quickly removes the small worms that frequently infest the anus of young children. In the excoriations of infants it effects rapid healing. In the not uncommon sore eyes of the first few days of life, the vaseline alone introduced within the eyelids, effects a cure in a day or two. Again, in the "snuffles" of the old women, which, by preventing nursing, frequently seriously affect the health of the infant, it, when introduced into the nostrils with a camel's-hair pencil, answers better than anything I have as yet tried, especially if the head is kept warm with a flannel cap. There are many other uses for vaseline, alone or combined with varying proportions of salicylic acid, that the experience of the physician will readily suggest to him in this connection.

AT the examination of the Illinois State Board of Health, held in this city on March 21st, out of a class of sixteen, only four passed. On April 11th, at Centralia, twenty-six received certificates out of forty-one applicants. Of these, nineteen had failed before, some two, and others three times, their examinations extending over a period of five months. Their perseverance was certainly commendable, and their final success was at least some evidence that they made good use of their time, prompted by the persuasive influence of necessity. Until recently no attention has been paid to midwives. The same rules will be applied to them as to practitioners.

MR. WORDSWORTH exhibited to the Medical Society of London, last January, six cases of congenital displacement of both lenses, in one family—mother, two sons and their three children. They state that their ancestors were troubled similarly; thus making, if their statement be true, *ten* cases in *five* generations. They are all myopic.—(*Dublin Jour. of Med. Sci.*, March, 1878.)

Medical News and Items.

AMERICAN MEDICAL ASSOCIATION.—The twenty-ninth annual session will be held in the city of Buffalo, N. Y., on Tuesday, Wednesday, Thursday, and Friday, June 4, 5, 6, and 7, commencing on Tuesday at 11 a. m.

"The delegates shall receive their appointment from permanently organized State medical societies, and such county and district medical societies as are recognized by *representation in their respective State societies*, and from the medical department of the army and navy of the United States."

"Each State, county and district medical society entitled to representation, shall have the privilege of sending to the association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half that number: *Provided*, however, that the number of delegates for any particular State, territory, county, city or town shall not exceed the ratio of one in ten of the resident physicians who may have signed the code of ethics of the association."

SECTIONS.—Practice of medicine, materia medica and physiology: Dr. A. L. Loomis, New York, Chairman; Dr. J. H. Etheridge, Chicago, Ill., secretary. Committee appointed to report to this section: On clinical and meteorological records: Dr. N. S. Davis, Illinois, chairman. Obstetrics and diseases of women and children; Dr. E. W. Jenks, Detroit, Mich., chairman; Dr. H. O. Marcy, Cambridge, Mass., Secretary. Surgery and anatomy: Dr. Henry H. Smith, Philadelphia, Pa., chairman; Dr. E. T. Easley, Little Rock, Ark., secretary. Medical jurisprudence, chemistry and psychology; Dr. Walter Kempster, Oshkosh, Wis., chairman; Dr. E. A. Hildreth, Wheeling, W. Va., Secretary;

State Medicine and Public Hygiene: Dr. J. L. Cabell, University of Va., chairman; Dr. E. J. Marsh, Paterson, N. J., secretary.

The following committees are expected to report: On prize essays; Dr. E. M. Moore, Buffalo, N. Y., chairman. On necrology; Dr. J. M. Toner, Washington, D. C., chairman. On catalogue of national library; Dr. H. C. Wood, Pa., chairman. On recommendations in President Bowditch's address; Dr. N. S. Davis, Illinois, chairman.

The following papers are to be presented at the meeting of the surgical section: Address by Henry H. Smith, M. D., chairman of the section, on certain points in the pathology of the bones, including tubercles. On disease germs, their nature, origin, and relations in cases of wounds, by B. A. Watson, M. D., Jersey City. On Septicæmia after re-sections, by D. H. Weeks, M. D., Portland, Me. On tracheotomy without tubes, by Henry A. Martin, M. D., Boston, Mass. On identity of hospital gangrene with diphtheria, by John T. Carpenter, M. D., Pottsville, Pa. On permeability of entire alimentary canal by enemata with some surgical applications, by Robert Battey, M. D., Rome, Georgia. On irritation of the metatarso-phalangeal articulation in valgus of the great toe, by Frank H. Hamilton, M. D., New York. On the process of repair in wounds with and without antiseptic treatment, by Frederic Hyde, M. D., Cortland, N. Y. On extirpation of the thyroid gland, by Julius F. Miner, M. D., Buffalo, N. Y. On fracture at the wrist, by John H. Packard, M. D., Philadelphia, Pa. On pathology and treatment of cancer, by Theodore A. McGraw, M. D., Detroit, Mich. On perityphlitic abcess, by D. M. Clay, M. D., of Shreveport, La.

All papers to be presented in the session of the section should be forwarded to Henry H. Smith, M. D., chairman of the surgical section, No 1800 Spruce street, Philadelphia.

AT the annual meeting of the Michigan State Board of Health, which was held at Lansing, Tuesday, April 9, 1878, president Kedzie presented his annual address on "The Work of the State Board of Health," in which he gave an account of the past work of the Board and outlined its work for the immediate future.

Among the many duties which the board had performed since its organization, about the first effort was for the establishment of well organized and effective Boards of Health in every township, city and village throughout the State, and then bringing the State Board of Health into communication and active co-operation with all these local Boards of Health, thus gaining two important objects; (1) having an effective channel for imparting information; (2) having organized bodies through which the statistics in regard to public health could be gathered from all parts of the State. Besides this the board had secured the assistance of many physicians throughout the State, receiving from them many valuable reports, communications, and replies to circulars regarding the cause and progress of various diseases. In speaking of the efforts to impart information and gather statistics bearing on the public health he said the results were most gratifying. Not only sanitarians but the people at large, are grasping that very important idea, the possibility of the prevention of disease and death; that many diseases may be prevented altogether, or that when they do appear they may be stamped out as a forest fire may be extinguished, or they may be walled in like an inundation.

In outlining the future work of the board, the Doctor said that the law now says that the board shall from time to time recommend standard works on hygiene to be used as text-books in our common schools. He recommended that this subject be referred to a committee to report to the board at an early day.

He recommended the early publication of the material collected by the board, such as meteorological data, reports of diseases, etc.

Inasmuch as the methods for disinfection are similar for different diseases, he recommended that a general circular on the use of disinfectants be prepared and issued, so that whenever the board wishes to issue instructions for the prevention of any self-propagating disease, such a circular will save repetitions.

The subject of the pollution of streams by sewage is a question of great importance, and one that should be settled before sewer systems become practically beyond control on account of the large outlay of money to effect a change. When Detroit first

emptied its sewage into the river it was claimed that it was not possible to pollute such a mass of water, but since the country has become thickly settled above, the water supply of Detroit is already endangered, and fears are expressed that as the population above Detroit along the river becomes greatly increased the water of Detroit river will become unfit for domestic use.

He suggested the holding of sanitary conventions in different parts of the State to discuss sanitary subjects, and to bring together dealers in sanitary appliances, sanitary experts, and the people generally who need instruction in sanitary work. He hoped to see the day when these questions which lay hold of life shall be as freely discussed by the laity as they now are by experts in sanitary science. If such conventions were held, the secular press would distribute widely the truths brought out.

ILLINOIS STATE MEDICAL SOCIETY.—The Twenty-eighth Annual Session of this Society will be held in the city of Springfield, Ill., on the 21st, 22nd and 23d days of May, 1878. The president of the Association for the current year is Dr. J. L. White, of Bloomington. The Committee of Arrangements is composed of Drs. P. M. Griffith, J. Townsend and A. N. Patterson, all of Springfield. It is expected that there will be an unusually interesting session, as the attendance promises to be larger than heretofore, and many valuable papers are promised.

A NEW MEDICAL JOURNAL.—Beginning with the first of July, 1878, there will be issued from Cincinnati a Monthly Journal, to be known as the *Obstetrical Gazette*. It will contain forty-eight pages monthly, size and style of the *Popular Science Monthly*. It will be devoted exclusively to the cultivation and promotion of knowledge in Obstetrics, Gynecology, and Diseases of Children.

It will be edited by E. B. Stevens, A. M., M. D., for eighteen years editor of the *Cincinnati Lancet and Observer*.

A PHYSICIAN of *stamina* and *experience*, is called for in a thriving Indiana town. Address for particulars, etc., J. H. Etheridge, M. D., 603 Michigan avenue, Chicago, Ill.

THE Regular Annual Meeting of the Association of American Medical Editors, will be held on Monday evening, June 3d, 1878, at the Tifft House, Buffalo, N. Y. All Editors of American Medical Journals are eligible for membership, and are cordially invited to be present and participate in the meeting.

TAYUYA—A CARD TO THE PROFESSION.

Readers of the Digest department of this Journal have had occasion to know that M. Louis Ubicini, of Milan, Italy, who for a long period resided in Brazil, discovered while there that a plant named Tayuya was extensively and very successfully employed by the natives in the treatment of syphilis and scrofula. He proceeded, after investigation of its properties, to export a quantity of the root to Italy, where he prepared a tincture which has since been largely employed and favorably noticed by several eminent Italian physicians, among them Dr. Faraoni (who read a report on the subject, which has since been published, before the Medical Congress at Turin), Drs. Ambrosoli and Bazzioni, of Milan, Dr. Kruch, of Pavia, Dr. Galassi, of Bologna, and others.

As I desired to test the value of this remedy, I have induced Messrs. Buck & Rayner, of this city, to import a single case of the dilute tincture of tayuya, which is, so far as I am aware, the first brought to this country. If there are other practitioners who care to make trial of the tincture, I shall be greatly indebted to such if they will report the results to me, as I propose to publish in future, observations on its employment in this and several Eastern cities.

The dose of the dilute tincture is from two to twenty drops, according to the age of the patient—it is given in infantile disease—though the maximum named may be doubled and tripled in extreme cases, if cautiously administered.

JAMES NEVINS HYDE.

117 S. CLARK ST., April 25, 1878.

ANNOUNCEMENTS FOR THE MONTH.

SOCIETY MEETINGS.

Chicago Medical Society—Mondays, May 6 and 20.

Chicago Society of Physicians and Surgeons—Mondays, May 13 and 27.

CLINICS.

MONDAY.

Eye and Ear Infirmary—2 to 4 p. m., by Prof. Holmes and Dr. Hotz—2 p. m., Prof. Jones.

Mercy Hospital—2 to 3 p. m. Surgical, by Prof. Andrews.

Rush Medical College—1:30 p. m. Medical, by Dr. Bridge; 2:30 p. m. Dermatological and Venereal, by Dr. Hyde.

County Hospital—8 p. m. Necropsy, by Dr. Danforth.

Woman's Medical College—3 p. m. Surgical, by Prof. Owens.

TUESDAY.

County Hospital—1:30 p. m. Medical, by Prof. Lyman; 2:30 p. m. Surgical, by Prof. Parkes.

Mercy Hospital—2 p. m. Medical, by Prof. Hollister.

Eye and Ear Infirmary—2 p. m. Prof. Jones.

WEDNESDAY.

County Hospital—1:30 p. m. Ophthalmological, by Dr. Montgomery. 2:30 p. m. Gynecological, by Dr. Bridge.

Mercy Hospital—2 p. m. Eye and Ear, by Prof. Jones.

Rush Medical College—4 p. m. Diseases of the Chest, by Dr. E. Fletcher Ingals.

THURSDAY.

Mercy Hospital—2 p. m. Medical, by Prof. Davis.

Rush Medical College—1:30 p. m. Neurological, by Prof. Lyman.

Eye and Ear Infirmary—2 to 4 p. m. Operations by Prof. Holmes and Dr. Hotz.

FRIDAY.

Mercy Hospital—2 p. m. Medical, by Prof. Davis.

County Hospital—1:30 p. m. Medical, by Prof. Quine; 2:30 p. m., Surgical, by Prof. Powell.

Woman's Medical College—10 p. m. Ophthalmological, by Dr. Montgomery.

SATURDAY.

Rush Medical College—2 p. m. Surgical, Prof. Gunn.

Chicago Medical College—2 p. m. Surgical, by Prof. Andrews and Isham; 3 p. m., Diseases of the Chest, by Prof. Johnson.

Woman's Medical College—12 m. Gynecological, by Prof. Fitch; 3 p. m. Dermatological, Dr. Maynard.

Special Clinics daily, from 2 to 4 p. m., at the South Side Dispensary, and at the Central Free Dispensary.

For schedule of lectures at the colleges, apply to the college janitors.

THE

Chicago Medical Journal

AND

EXAMINER.

VOL. XXXVI.—JUNE, 1878.—No. 6.

Original Lectures.

ON DR. BROWN-SÉQUARD AND HIS RECENT LECTURES.

A LECTURE DELIVERED BEFORE THE CHICAGO MEDICAL SOCIETY, MAY 6TH, 1878.

BY J. S. JEWELL, M. D.,

(Professor of Nervous and Mental Diseases in the Chicago Medical College.)

MR. PRESIDENT AND MEMBERS OF THE SOCIETY:

This evening it is my purpose to review briefly certain of the positions taken by Dr. Brown-Séquard, in relation to the physiology and pathology of the nervous system, more particularly as set forth in a course of lectures delivered by him recently in this city. I do this for several reasons: because I deem many of the positions taken thoroughly erroneous, because they seem to be in direct variance with the best teachings upon the anatomy and physiology of the nervous system, because these erroneous notions are stamped with the great authority of Dr. Brown-Séquard, and because they were delivered before an unusually large audience of medical men, such as but few living persons could call together for the discussion of such a subject, and hence in

so far as the revolutionary views referred to may have been adopted by his audience, it may be assumed that the progress of a true knowledge upon the important theme to which his lectures related, may have been retarded.

No one has a greater measure of well-founded respect for Dr. Brown-Séquard than I have. For years I have read his writings and tried to understand his various and valuable contributions to physiology and physiological pathology. To untiring industry he has united great ingenuity in devising his experiments, far more than an ordinary caution in adopting conclusions, and no ordinary knowledge of the sources of error and conditions of success in physiological experimentation. In his earlier writings he is clear and consecutive in thought and statement, simple in style, and convincing in argumentation. In spite of a restless and unsettled disposition which has led him almost perennially from the United States to France, and from France to England, or *vice versa*, in spite of a comparative lack of pecuniary resources, and finally in spite of the fact that he has not been, by reason of frequent removal, long at a time able to occupy a professorial chair, which would have yielded a support and the means and leisure to prosecute scientific research, I say that in spite of these drawbacks, he has left indelibly his impress on the annals of physiology and medicine.

It is not my purpose this evening to try to recount the various contributions to physiology made by Dr. Brown-Séquard, even in relation to the nervous system. This will be a work for the future. His researches on the physiology of the spinal cord, constitute his chief and sufficient title to a place in the front rank of physiologists. The researches of no other physiologist in regard to the modes of action of the nervous system, no matter from what standpoint we may regard them, are entitled to a higher place. Then his researches into the physiology of the vaso-motor nervous system, into the nature of epilepsy, not to mention the trophic and temperature relations of the nervous system, are among his more prominent contributions to physiological science. By them he has been greatly honored, and will be always remembered. But it must be remembered that physi-

ology is even now a very imperfect science. Much as is now known, much is yet to be learned in the future.

Until within the past few years, Dr. Brown-Séquard was in accord with the general current of physiological thought. But for seven or eight years or about that time, he has abandoned many of his former notions, and is now apparently in almost complete disaccord with the latest, and what seem to be the best results of anatomical and physiological science, more particularly as regards the brain. The first general indication I remember to have seen of his change of view, was in the *Archives of Scientific and Practical Medicine*, a monthly journal which was started in New York several years ago, with Dr. Brown-Séquard as its editor, and which barely reached an existence of half a year and then expired. In that journal there was an article or two in which, in the form of a series of propositions, certain rather startling innovations in nerve physiology were promised. But the sudden decease of the journal, arrested their publication at that time. A little later, a lecture by Dr. Brown-Séquard was published in the *Boston Medical and Surgical Journal* for July 19, 1875, in which his promise was partly fulfilled. In that lecture, he especially devoted himself to the task of combatting the doctrine of a localization of function in the cortex of the brain, which subject had then begun to attract attention, through the earlier researches of Fritsch and Hitzig, and Dr. Ferrier. Soon afterwards he was found in Paris, where he became engaged almost by accident in a very elaborate discussion in the Biological society of that city, with Dr. Charcot, Dr. Luys, and others, all or most of whom took ground against him, Dr. Charcot from the clinical side, Dr. Luys from the anatomical, others from the physiological, and all with a result anything but favorable to Dr. Brown-Séquard. These discussions were reported at some length and discussed in my journal.

Subsequently Dr. Brown-Séquard went to London, and delivered lectures on the same subject, which were published in the *London Lancet*. Not long after this, lectures in substance the same, were delivered at New York and reported for the *Medical Record* of that city.

In all these lectures and discussions the chief themes were a

denial of the localization of functions in the cerebral cortex, an assertion of the doctrine rather than the fact, that motor conductors do not decussate at or below the "base of the brain," and finally the unlimited use of the principle of "inhibition," and its contrary, as a means for enabling him to explain a host of knotty questions in the physiological pathology of the brain. This has been the burden of all his recent lectures on these subjects, especially of those he gave in this city. To those who have been closely watching his course the past few years, his peculiar views as regards the physiology of the brain have ceased to attract serious notice. They are not shared, as a whole, by a single physiologist of eminence. But few clinicists and not one of marked prominence, fully shares his opinions. The anatomists are almost all against him or at least not for him. It must be remembered that Dr. Brown-Séquard is not an anatomist in the sense that he is a physiologist. In the latter province he is an authority, in the former he is not so. Since then, his peculiar views which have been so often published, and judged by the present notions which prevail in the physiological anatomy of the nervous system as I hope to show, are so far from the truth, it was with some surprise that I learned the *Chicago Medical Journal and Examiner*, usually so enterprising and alert, had concluded to publish the lectures.

The first question to which I would invite your attention is that of the decussation of the conductors of motor impressions, extending from the base of the brain downwards into the spinal cord. The common opinion has been, and now is, that motor fibers start—let us suppose—in the striate body in one side of the brain, and these pass downwards in the crus of the cerebrum into the pons varolii of the same side, and then either in the pons or the medulla, or both, they (the bands of motor conductors) cross over to the opposite side, so as to enter the opposite side of the cord, in such manner that the fibers—or at any rate, the same motor conductors—which arise in the right half of the brain, are found lower down, in the left half of the spinal cord, and so for the left half of the brain and the right half of the spinal cord. This I say has been and now is the common opinion, but it does not seem to be the opinion of Dr. Brown-Séquard. I will make a few extracts from his lectures, which go to show what are

his real views on this subject. Says he (*Journal and Examiner*, *p.* 292, *March*, 1878): "Since the time that paralysis has been observed to come usually in the side of the body which is opposite to that of the seat of the lesion in the brain, it has been considered that one side of the brain is the mover of the opposite of the body. *This I will contradict absolutely.*" "It was admitted for a long time ago * * * that if paralysis comes on the opposite side of the disease in the base of the brain, it exists on the opposite side because decussation takes place only in the anterior pyramid, and produces paralysis on the opposite side, though there are exceptions. I will try to prove * * that *the views I have to propose are absolutely different from these.*" (P. 294.) The meaning of these passages and many more of similar import seems to be, that there is no decussation of motor conductors below "the base of the brain," as is almost universally held at this hour among competent anatomists, physiologists and clinicists. Let us examine this question with some little care, to see in what state it is.

That as a rule and as a whole, the conducting motor tracts from one side of the brain, decussate below the brain, so as to enter the opposite half of the cord, is rendered highly probable by the following:

1. *Anatomical Evidence.* Of course it will be impossible for me to enter now into this or any other kind of evidence in much if any detail, for such a course would require a course of lectures, rather than one lecture. But not to refer to any other writings or researches at present, I would call to your minds the comparatively recent work done by MM. Sappey and Duval, in regard to the fine anatomy of the medulla and pons, and "the course of the columns of the cord" through the same, as reported in various journals for the year 1876 (*Gaz. des Hôpitaux*, No. 10, Jan. 25; also, *Journal of Nervous and Mental Disease*, p. 324, vol. iii., 1876). No anatomical researches on these parts were ever conducted with more care or skill, or by more capable observers, and the results are clear and absolute as to the decussation of the conducting motor tracts in the medulla, but *only in part* where Dr. Brown-Séquard seems to assume that they pass, viz.: in the superficial or exposed parts of the anterior pyramids. Many if

not most of the fibers (or routes, whether fibers or cells) seem to decussate more deeply in the medulla. Hence the lack of value of many of the cases of superficial disease of the medulla and pons, on which Dr. Brown-Séquard seems to rely to prove that there is not a decussation of motor conductors, where it had been formerly supposed solely to occur. But more of the applications of anatomical facts hereafter.

Then again the same subject has been carefully examined from many points of view, by Dr. Flechsig, of Leipsic in a recent work (*Die Leitungsbahnen im Gehirn und Rueckenmark des Menschen auf Grund Entwicklungsgeschichtlicher untersuchungen dargestellt von Dr. P. Flechsig. Mit* 20 *Tafeln.* p. 383 Leipzig, 1876,) and in subsequent publications his views are essentially confirmed. The conducting motor tracts according to Dr. Flechsig *do* decussate, with certain partial and rather rare exceptions (in man). In fact the *anatomical* evidence worthy of the name is all in favor of the decussation. I could fill page after page, with quotations from the works named, and many others not less respectable and conclusive, but I do not have time to go into details. This statement is not made, of course, as an excuse for not giving the facts *in extenso*, for, they can be produced when time and opportunity admit. The anatomical evidence is conclusive, as far as could be expected.

2. *Physiological evidence.*—This is quite extensive and at the same time, in the main, conclusive. I can do no more now than refer to that which seems most important. First of all I would refer to certain facts which it may be said Dr. Brown-Séquard himself, discovered. I now refer to his researches on the spinal cord. Among other facts established by his researches are the following:

If a complete lateral hemi-section of the cord is made, in any part of its course, let us suppose at the summit of the cord prior to its transition into medulla, the following circumstances among others, invariably appear; paralysis of the motion of the muscles of the members on the same side as that on which the cut is made, or at least paralysis of all muscles on the same side, which receive their motor nerves from the cord below or behind the section, and a corresponding paralysis of sensibility on the *other side* of

the body—or that opposite to the cut, and to the motor paralysis. These phenomena invariably occur as consequences of a complete lateral hemi-section. They were very properly held by Dr. Brown-Séquard, to indicate that the sensory fibers of the spinal nerves (posterior roots) decussate in the cord, soon after they enter it, so that the sensory nerve fibers which go from the right side of the body, cross over the middle line and ascend in the left half of the spinal cord towards the brain. This fact was established in various ways, and is now no longer in doubt. The sensory conducting tracts, *do decussate* at all heights in the cord, soon after they have entered it, from the posterior roots of the spinal nerves. Do the motor conducting tracts also decussate in the cord, following the example of the sensory tracts? Most certainly not. The same experiments which prove that the sensory tracts do discussate, prove in the most conclusive manner that motor conductors do not. If they decussate at all it must be above the cord, for in the latter, the sensory conductors for one side of the body and the motor conductors for the other, are found on the same side of the cord. Three courses of supposition are now open to us: Either the sense conductors from the right side of the body go to one side of the brain, and the motor conductors for the right side of the body go from the other side of brain, as compared with the sense conductors, or the sense conductors after having crossed over in the cord, cross back again "at the base of the brain," so that the sense and motor conductors for one side of the body may be at last conjoined in the brain as they are separated or on opposite sides in the cord, or finally we must suppose, that there is a decussation of motor conducting tracts above the cord and below the brain. We must adopt one or other of these views. The first no one would think of maintaining, save in the most exceptional cases, in the present state of nerve physiology. The second supposition would be even more difficult than the former to reconcile to our existing knowledge. The third supposition is the common one entertained to day, and has been for a long time past. Besides these suppositions, I do not know of any others which are even probable. This latter supposition is strongly supported, by many well established facts both in physiology and pathology.

If Dr. Brown-Séquard has collected "right and left," two hundred cases of brain disease causing paralysis on the same side as the brain lesion, three times that number, at any moderate estimate can be shown, in which the opposite is true—lesion in one side of the brain with paralysis in the opposite half of the body, and among these cases are very many, in which the same lesion in one side of the brain has caused not only motor paralysis on the opposite side of the body, *but also a sensory on the same side as the motor paralysis.* This class of facts is well known, and shows that though the sensory and motor conductors for one side of the body, are on opposite sides of the cord, *that when we come to the brain they are on the same side, and hence there must have been a decussation above the cord.*

Then again it is true, that in experiments on the brains of living monkeys, not to mention animals below them, experimental injuries made on the right side of the brain for example have in almost every case been followed by paralysis or convulsions, *in the opposite side of the body.* This has been the uniform experience of almost every one, save Dr. Brown-Séquard. Dr. Ferrier, of London, who has conducted a greater number of experiments on monkeys than any other man, which animals so nearly approach man in their nervous organization, *has always found* paralysis to occur on the side opposite to the lesion. What do such experiments oblige us to suppose? A decussation of motor fibers, (or conducting tracts) to the opposite side, which is what Dr. Brown-Séquard strangely enough seems to deny.

Here again pathological cases are exceedingly numerous, twenty to one of Dr. Brown-Séquard's cases, which show in all desirable plainness that a lesion in the base of one side of the brain causes motor disturbances in the opposite half of the body. And many of these cases are among the most recent and most carefully observed. They so far outweigh in number and trustworthiness the cases relied on by Dr. Brown-Séquard, in support of his views, that one is led very naturally to consider his cases as either inaccurately reported, or simply anomalous. Now what are the facts on which Dr. Brown-Séquard relies, to induce us to set aside the evidence I have hinted at, as supporting the view

that a decussation of motor conductors takes place above the cord, and below the brain?

In the *London Lancet*, (*On the Appearance of Paralysis on the side of a Lesion in the Brain, by C. E. Brown-Séquard*) for April, 1876, is a lecture, by Dr. Brown-Séquard, in which he gives the literary references to many of his cases. In that lecture he says, "I may startle many of my hearers in stating that I have collected *more than two hundred* of such cases [of paralysis on the same side as the lesion.] Burdach, out of 258 cases of paralysis in one-half of the body, states that there were fifteen on the side, and 243 on the opposite side of a lesion in the brain. W. Nasse, besides the fifteen cases of Burdach, knew of 26 cases of paralysis on the injured side in the brain. In two good papers by Bayle and Dechambre, not more than ten or twelve cases are pointed out. The 200 I have collected do not include those of Nasse's list (at least most of them), as I have not been able to procure the paper of that learned physician." (P. 146 *Lancet.*)

But the 200 cases of Dr. Brown-Séquard in all probability include those of Burdach, Bayle, Dechambre, Gintrac, etc. Now I have been at the pains to examine the reports of many of these cases, and among them those of the paper of Nasse (*Ueber die sogenannte gleichseitige Hemiplegie. Von Werner Nasse, in Bonn. Allgem. Zeitschr. f. Psych. etc.* Bd. 6, 1849, S. 384–412), especially to ascertain the sources from whence they drew their materials. The first cases are from the work of Morgagni (*De Sedibus et Causis Morborum, Op. lvii.*, 14). Valsalva and Morgagni, it seems, were able to collect eight original cases in all. Next Bayle, in 1824, published a paper, in which seven cases were mentioned, *six of them the same* as had been already mentioned by Morgagni. Then, of the fifteen mentioned by Burdach, two of them, at least, occur in Morgagni's list, while of the ten cases cited by Dechambre, *eight had been already mentioned by either Morgagni or Bayle.* Of the cases published by Andral —sixteen in number—*nine had been already mentioned* by one or other of the earlier writers mentioned, leaving only seven new cases, and two of them oral.

Thus we have 32 cases, and to this number 26 are added by Nasse, after a most painstaking review of medical literature.

Nasse's collection added to the previous one gives us 58, so that either Dr. Brown-Séquard must have found some new cases prior to 1849, or since then he must have found in more recent literature about 150 new cases. But from the references contained in the lecture in the *Lancet*, it would appear that most of the cases among the 200 are old, and as I know from having read the original accounts of many of them, are very imperfectly reported, and are hence absolutely devoid of solid scientific value. I have no fear whatever that this statement will be successfully contradicted by a recital of the cases. As it is obviously impossible to go far into details, I will limit myself to two of the best and most recent cases, depended on to show there is not a decussation of the motor conductors in the medulla. Assuming that the place of decussation of motor conductors is between the anterior pyramids of the medulla, and there alone, Dr. Brown-Séquard quotes two cases from Prof. Vulpian (see his *Leçons sur la Physiologie Générale et Comparée du Système Nerveux, etc., Paris*, 1866. P. 492–494), of disease of the anterior pyramids, without the paralysis being present which should have been, if the anterior pyramids had contained the motor conductors, as was formerly supposed.

I will recite the best one of these cases *verbatim*, so you can see for yourselves what it amounts to. The first was as follows: "In a woman aged 82 years, and who showed no appreciable paralysis, the autopsy (no account of what the woman actually died of) revealed the evidence of a lesion of the pons and of the anterior pyramids. There was at the anterior part of the under surface of the pons an irregular, hemispherical cavity, with grayish walls, about half a centimetre in diameter, and from five to six millimetres in depth, and containing a transparent liquid. Beyond this, there was *a very slight* loss of substance, on the inferior surface of the left cerebral peduncle, five or six millimetres from the anterior edge of the protuberance. The two anterior pyramids presented a manifest atrophy, more deep on the right than the left. On the left side the lesion was very superficial, involving only the external part of the pyramid, where there was to be seen a very small, narrow band, of a grey color, formed by altered fibers. But the atrophy of the right pyramid *appeared* to be complete, its prominence being much diminished and being of a grayish yellow color in its whole

thickness. *No microscopic examination was made* of such a character as to determine whether or not there were yet healthy fibers."

The other case is not so important even as this one, except that a more careful microscopic examination was made. But take the case I have just quoted and consider it a moment. *It is not certain* that the whole thickness of the right pyramid was destroyed, and the left is known not to have been. But if it had been, the whole of the motor conducting tract, according to our present knowledge, would not have been destroyed, and hence the case, though interesting, is, for exact scientific purposes, worthless. And I speak advisedly when I say to you that there is probably not one of his 200 cases free from serious objections of a similar kind. What kind of a basis, then, does this afford for founding a new and revolutionary doctrine, such as Dr. Brown-Séquard has announced? The cases collected by Burdach were 258 in number (*Vom Baue und Leben das Gehirn Bd. iii.* S. 368. Leipzig, 1826), and *only fifteen* appeared to be cases where paralysis was on the same side as that of the lesion—*or one case in seventeen of hemiplegia.* So, according to the old table of Burdach, the cases on record of crossed as compared with direct hemiplegia, were as 17 to 1. I am prepared to say now, that there are 30 cases to one at present on the records. If so what shall we think when it is learned that none of Dr. Brown-Séquard's cases are critical when many of the other kind are critical. The immense preponderance of the crossed to the direct cases, is alone sufficient to throw a fatal suspicion on the one case which appears to be different from the other thirty.

[TO BE CONTINUED.]

A NEW MUCILAGE.—The *Journal de Pharmacie* states that if, to a solution of gumarabic, measuring 8⅓ fluid ounces, a solution of 30 grains of sulphate of aluminum, dissolved in two-thirds of an ounce of water, be added, a very strong mucilage is formed, capable of fastening wood together, or of mending porcelain or glass.

Original Communications.

PRECOCIOUS AND OTHER PHENOMENA OF SEXUAL ORGASM.

By James Nevins Hyde, Chicago.

In the light of recent observations, few will refuse to admit that sources of irritation in the external genitals, may induce reflex disorders of the most varied and exaggerated character. In a recently-published paper (1), I endeavored to describe some of the consequences of præputial stenosis, with its complications of retained smegma, etc., and briefly alluded to the results of stenosis of the urinary meatus.

In the present article, I desire to adduce some observations made by myself and others, which serve to illustrate the centric, rather than the excentric, origin of certain precocious and other unusual phenomena of sexual orgasm, in infancy and youth. Without question, it is far more easy to decide that these are the results of influences operating at the nervous centres, than to decide as to the nature of such influences. In one case, certainly, I think it will be seen that hyperæmia of the nervous ganglia at the base of the brain, was an important factor. In others, the same results may have been due to disturbance in the nutrition of these ganglia, or to obscure states of exalted irritability of the sensory portions of the brain, spinal cord and peripheral sensory nerves, or to changes in the vascularity of the cerebral or spinal meninges, or to changes in the quality of the circulating fluid itself. In two instances, a strong probability is suggested that

(1). Præputial Stenosis: its possible complications and consequences. *Ch. Med. Jour. & Ex.* Ap., 1877, p. 295.

the morbid conditions of the nervous system were the result of hereditary influence.

Without attempting to discuss this question, whose solution must depend upon the accumulation of many more facts and anatomico-pathological data, I proceed to the consideration of the phenomena themselves.

In the early part of April, 1878, Dr. A. B. Newkirk, of Hyde Park, Ill., described to me, in the course of a conversation, certain peculiar symptoms of an obscure character, which were displayed by two young patients in his professional charge. It occurred to me that his description was in many particulars identical with that given by Prof. A. Jacobi, of New York, in his admirable monograph, entitled, "On Masturbation and Hysteria in Young Children," (1) where the details are given of several cases, one of which in this connection has a special interest. I suggested to Dr. Newkirk that he procure and read the paper referred to; and this he not only did, but became convinced, after further observation of his patients, that our suspicion as to the character of their disorder was not without foundation. He further kindly invited me to join him in making a careful examination of the children, and permitted me to publish the results.

The father of the little patients, whose cases are briefly described below, is 38 years old, slender in frame and of a nervous temperament. He has always enjoyed good health, never having suffered from any severe disease nor grave lesion. The mother, 31 years of age, is also of nervous temperament. She is slender in frame, but her cheeks exhibit the red hue of health. Since youth she has worn glasses to correct myopia, but, like her husband, she has never had any disorder originating in the nervous centers, nor other serious disease. They have been married eleven years, and the two children, named below, are the sole fruit of the union.

The eldest of these latter, R. J., æt. six years, was brought into the world after natural labor, enjoyed invariably good health

(1). Reprint from the *Amer. Jour. of Obstetrics and Diseases of Women and Children*, Vol. VIII., No. 4, Feb., and Vol. IX., No. 11, June. 1876.

up to the age of six months, and, with the single exception of what was called "scarlet rash," has had none of the diseases of infancy. At this time, his mother first noticed the occurence of the peculiar symptoms since exhibited. The baby, whether seated in its crib, on the floor, in its high chair, or even when placed upon its hands and knees, would suddenly become rigid. His expression would be that of one "abstracted,"—his gaze fixed. The hands, in which his toys happened to be held (on the first occasion, when observed, a clothes-pin was grasped), were firmly and forcibly closed upon the objects which they contained, to such an extent that they could be removed only with considerable difficulty. The body and limbs also became rigid, and the thighs crossed, the one over the other. He would then "work himself" for a longer or shorter period of time, when a copious perspiration would occur, and the scene be ended. Usually this was succeeded either by sleep or by a complete return to the natural expression and behaviour of the infant. These phenomena were never observed during sleep; just before he slept, however, and immediately after awaking, they might generally be expected.

When the child was in this condition, the act was immediately discontinued if he were suddenly and rather sharply addressed, or if his attention were diverted by the approach of strangers, the offer of toys, etc., or if he were taken up in the arms. So soon, however, as the attention ceased to be thus diverted, the child usually relapsed into the same condition. As to the intervals between these attacks and their relative frequency, no very precise information could be obtained.

The mother hoped that she would notice some change in this particular as soon as the first dentition was completed, and indeed was encouraged in this hope by those whose advice she had sought. When the infant was eighteen months old, he was weaned; and then occurred the longest interval between the accesses which up to that time had been noted—a period of four weeks. Meantime the child had learned to walk. Soon, however, after the eruption of the eye and stomach teeth, the phenomena described above recurred, and have continued with various intermissions, worse in the summer than in the winter, up to the present time.

Latterly the boy displays these symptoms, in and out of doors, without regard to the presence of strangers, on the floor, on the ground, and, on several occasions, upon the broad top of the fence in front of the house. The only difference noted, between his condition at the time of these occurrences and that observed in infancy, is that his limbs are crossed in a more marked manner. On one occasion, when observed by Dr. Newkirk, he was on his hands and knees upon the floor, the trunk supported entirely by the hands, and the right leg thrown over the left so as to forcibly approximate the thighs: posteriorly the body was supported on the left knee. In this position, a certain degree of twisting or swaying motion was perceptible, followed by perspiration and sighing, when the acts were discontinued. At my request, the boy assumed the precise position described, when upon the floor: and also upon a low arm-chair, when his knee rested on the seat and his hands clutched the arms.

The only result noticed by the parents was a change in the child's temper. When aroused from the peculiar state indicated, he seemed cross and irritable, though at other times he possessed a cheerful and happy disposition. He had been rarely seen handling the penis — so rarely, indeed, that they were sure no such habit existed. There had never been dysuria nor nocturnal diuresis, to an extent greater than that noted in healthy children. Once or twice only, had he complained of "soreness" about the genitals, which always proved to be temporary in character. At one time the mother thought she noticed a tendency to stumble when walking, but this also had ceased to attract her attention.

During the last few years the habit had not to any marked extent either increased or decreased. At one time during the last summer, the father had taken the child with him out of doors for play, while the former was engaged in his usual occupations, and he then noticed that sometimes for an entire day the boy would seem to be engaged in the performance of the act. The mother stated that occasionally for months at a time, he would seem to her to be engaged in nothing else.

When examined, the lad was found to be a blue-eyed and light-haired child, with well-developed head, body and limbs, intelligent expression, red cheeks and vivacious demeanor. His

teeth were normal, axes of eyes parallel, senses perfect, and his health without the slightest evidence of impairment. In stature, weight and nutrition, he was entirely normal. There were no evidences of genital irritation, the prepuce was permeable by the glans, free, not redundant nor pocketed. His urine also was normal and passed without straining. Dr. Newkirk agreed with me in declaring that we could discover no symptom of ill-health nor lesion, with the single exception of a slight tendency to genu valgum, which, under other circumstances and in another child, would certainly have escaped notice. His appetite was good, bowel-dejections normal and regular, sleep undisturbed. His mother complained only that he was "restless and nervous."

The second child, G. A. J., æt. 17 mos., had a history not unlike that of his brother. He was brought into the world by natural labor, had never suffered from infantile disease, and, until he arrived at the 9th month, had never displayed symptoms which aroused special attention. At that age, however, his mother noticed at times certain singular manifestations, which she thinks would not have especially interested her, if she had not observed something similar in the case of her first infant. When the baby was left alone in the crib, it would occasionally assume the fixed and abstracted gaze described above, and its little limbs become rigid, but the lower extremities, instead of being crossed so as to approximate the thighs, as in the case of the brother, would be firmly extended and separated. At the same time, the opened hands were pressed, palm downward, into each iliac fossa. After a few moments of accelerated respiration, and very little if any facial and bodily movement, copious diaphoresis would ensue, and the child would either sleep or resume its natural aspect and demeanor. Most frequently these acts would occur just before the infant was placed in its crib for the purpose of taking his daily nap, but, from first to last, the attacks have proved much less frequent, prolonged and intense than in the first case. However, during some weeks, accesses of the same character would occur once in each day.

The child occasionally wet its bed—not oftener, however, than other children of the same age; and did not strain when urinating.

When examined, it was found to be a blue-eyed and light-haired infant, very well nourished and developed, of nervo-lymphatic temperament, its cheeks somewhat less rosy than those of its brother. It was able to sit up and to propel itself on the floor in various methods, chiefly by dragging the body forward, when in the sitting posture, by alternate flexion and extension of the legs. Dentition had progressed favorably; there was nothing abnormal about the genitals. The expression was intelligent, the axes of the eyes parallel, the senses unimpaired. In brief, the most careful examination failed to detect any evidence of perverted function, disease or deformity.

In order to exhibit to the reader the similarity between these histories and the observations of Dr. Jacobi, I append a brief abstract of the most noteworthy of the cases recorded by the latter:

A female child was healthy during nine months, after which teething commenced. At the fourteenth month, she had nine teeth, and the dentition was unaccompanied by pain or constitutional disturbance. At this age, slight indications of nervous trouble were noticed when the child was lying in its mother's lap. She suddenly became pale, had a peculiar dazed expression, and her attention could not be readily attracted. When raised up and moved, she immediately became natural in looks and action. This was repeated only a few times, when the attacks changed in character. In addition to the appearance of the countenance already described, there much muscular rigidity: the arms became quite stiff, and strongly resisted being flexed: the hands were clenched, and the little fists firmly pressed into the iliac regions on either side. At the same time the legs were strongly extended at right angles to the body, and there was a strong contraction of the abdominal muscles and a straining as if at stool. If the child were held against one's breast, she made strong pressure with the knees and up and down movements of the body. After a short period, a moment or two, the respirations were quickened to a rapid panting, and perspiration started freely from the head and stood in drops about the mouth. The attacks often terminated in sleep. There was at no time any spasmodic or convulsive movement, or unconsciousness or mental

disturbance beyond an apparent abstraction. The attacks occurred irregularly, with intervals of some days, or many times a day for several days in succession, and sometimes for two or three hours with but slight intermission. They never came on during sleep, but usually when the child was sitting on the lap, and occasionally when on the bed or floor. If she were placed on the floor early in the attack, and amused with her playthings, it would frequently be broken up; if however, she were held till it was fully developed and then put down, she would lie upon her side and the attack would progress as described.

The symptoms described in another case, that of a girl three years old, were, redness of the face, slight twitching about the eyes, and an occasional deep sigh, the attacks occurring when the child was playing upon the floor or crouched upon a chair. The accesses never occurred in sleep, or when walking, playing or tossing about. She was apt also to cross the legs or closely join the thighs. After violent friction of the limbs, with hurried respiration and purple hue of the face, the act was completed with perspiration and sighing.

Similar symptoms were displayed by a little boy, who would seat himself on the floor, stare upwards and commence a kneading exercise by means of his two little fists directed against his privates, which his nurse thought "very cunning." In this case, however, there were symptoms of vesical catarrh and enuresis.

The following points are noteworthy: 1. The early age at which the orgastic phenomena were first observed in Dr. Newkirk's cases, earlier in fact than the ages recorded by Dr. Jacobi, and, so far as I am aware, the earliest on record. 2. The almost imperceptible effect of the long continued orgastic excitement upon the well-being of mind and body, in the cases here first reported. Without repetition, it may be briefly said on this point, that the children in every particular did not come short of a high standard for the average mental and physical attainments of other children of their own age. 3. The co-existence of two rare cases in one family. This would tend to excite a suspicion of hereditary influence. It has been seen that the parents were both of a nervous temperament and slender frame. They had had but two children during eleven years of married life. Upon

this point, of course, an opinion can only be expressed with reserve. 4. The very remarkable correspondence between the phenomena in all the reported cases. They do not differ by as much as many other diseases of the same name in different individuals. A description of one would answer fairly well for the others.

It should be added that with the judicious administration of camphor bromide, and a pursuance of orders to break up every attack when possible, the children have been gradually improving under Dr. Newkirk's management.

How far attacks similar to those described, and long continued, might operate in laying a foundation for future disease, it is impossible to say. I am inclined to believe that the history of the later life of these patients, might throw some light upon the possible results of these early accesses. At the same time it is to be remembered that nature is wonderfully conservative, and never more so than in youth, when drafts may be made upon the nervous forces which would utterly prostrate the adult. I had recently under my charge a young woman fifteen years of age, who admitted that she had had intercourse with impunity sixteen times in twenty-four hours. She was suffering then from inflammation of the vulvo-vaginal gland. Another patient, a young man of twenty, assured me he had had intercourse twelve times between 3 and 6:30 p. m. of the same day. On the other hand, a gentleman, past the middle age of life, a widower and a grandfather, had several liaisons with women in his neighborhood. Soon afterward, he became an inmate of the Insane Asylum of California at Stockton, and the accomplished superintendent of that institution, Dr. G. A. Shurtleff, wrote me, under date of April 7, that the patient was affected with general paralysis of the insane — a terribly fatal disease, from which there is not one well-authenticated case of recovery on record. Very recently I had under charge, associated with Prof. E. L. Holmes, a gentleman of fifty, in good circumstances, whose sexual excesses had produced a large obstinate corneal ulcer, which threatened at one time to become perforating.

In the matter of diagnosis, I cannot think of any disease whose symptoms might be confounded with those described above,

unless it be chorea, and especially the hysterical and rhythmical forms recently described by Prof. Charcot, of Paris. (Vide *Jour. de Médecine et de Chir. Prat.*, t. 49, c. 4, Abstract from *Le Progrès Médical.*) Yet the latter have a marked individuality of their own. In rhythmical chorea, the head, trunk and limbs of one side of the body are incessantly agitated in alternate movements of flexion and extension, uniform and identical, the head bending on the trunk and the trunk on the pelvis. This occurs with mathematical regularity, night and day (except during sleep), when the subject is reclining or walking by the aid of another's hand, when the attention is fixed to, or distracted from any special object. The choreic movements, instead of resembling those of salutation, may suggest the motion of the blacksmith at his anvil, or the swimmer in the sea.

I have not given the name masturbation to the precocious orgastic acts described above, simply for the reason that it does not seem sufficiently precise. Its etymology alone (*manus stupratio*) supplies the objection.

Allied to these instances are those of precocious puberty, menstruation and pregnancy. Cases are on record of menstruation at the 9th month, at one year, and at one year and a half; and of pregnancy in the 5th year (Mandelshof), in the 8th (Carus), in the 9th (Jaubert), and in the 10th (Sims). One such has recently been reported by Molitor of Oberspallen (*Bulletin de l'Acad. de Médecine de Belg.*) The child menstruated in her 4th year, and, in the 8th, aborted with a hydatid mole and embryo, after intercourse with her cousin, 32 years of age.

It is difficult to see why intra-uterine perturbations of the nervous ganglia of the fœtus, which may produce congenital talipes and unilateral skin lesions of tracts supplied by a single nerve or series of nerves, should not at times be capable of producing premature puberal epochs.

In 1876, Dr. G. H. Nuckols, of Kentucky,(1) reported the case of a male infant, born Dec. 31, 1875, of a mother who contracted

(1) This report first appeared in the *Louisville Medical News*, June 10, 1876, p. 295. I incorporated a brief abstract of the case in the Digest of Literature of Hereditary Syphillis, prepared for the *Archives of Dermatology*, Jan., 1877, vol. iii, No. 2. Prof. Auspitz, of Vienna, reproduced my abstract in the *Vierteljahrschft. f. Derm. u. Syph.*, J. iv, Hft. 3. p. 423, and added that "priapism would hardly accord with the existence of hereditary syphilis." Since then, however, Th. Bar-

syphilis four years previously, the father having never suffered from the disease. On January 2d, the penis of the infant was found to be erect and as hard as cartilage; it remained in this condition thirty days. Symptoms of hereditary syphilis were displayed in the tenth week. Rapid improvement occurred under specific treatment.

I was recently consulted by a young man from Indiana, J. M., of sanguine temperament, for the relief of nocturnal emissions. He was well developed in head, trunk and extremities, and had a particularly frank and engaging expression of countenance. The genitals were normal in size and configuration; præputial opening, ample; urinary meatus, admitting sound No. 25 of the French scale; urethra, not hypersensitive when traversed by the same instrument. He had been subjected to a triple process of starving, sweating and freezing in a neighboring "water cure," and I at once placed him upon a generous diet with roborant medication, till he greatly improved in health, and his cheeks became rosy. I could discern no special indication for treatment of the genitals, until he informed me one day that his losses at night were always produced by masturbation in sleep. He would be aroused immediately after each act, partially sensible of what he had been doing, and with unmistakable evidences about him of his mishap. He had never practiced masturbation when awake, had never used tobacco in any form, and although at one time he had indulged rather freely in liquor, the habit had been abandoned before his present troubles commenced. At the time of making this explanation, he in fact wore the red ribbon of the temperance agitators. When asked why he had not earlier explained the precise character of his trouble in answer to the rather minute inquiries put to him, he replied that he thought that the nocturnal pollutions of all men occurred in the same manner. As usual in such cases, these accidents occurred at irregular intervals—sometimes several times in the night, some-

low, of England, has found extensive nervous lesions in congenital syphilis, including new growths and gummata of nerves, atrophy of nerve cylinders, diminished lumen of cerebral capilaries, adhesions of dura-mater and arachnoid, exudation of greenish lymph, etc., changes capable of producing paretic priapism. I accept the great weight of Prof. Auspitz' authority in these questions, but believe that his statement, given above, requires qualification.

times on several successive days; occasionally with intervals of a week or two, rarely more.

On the 9th of March, 1878, after the production of anæsthesia, I perforated each side of the upper limb of his prepuce with a large triangular perineum needle and inserted a ring made especially for the purpose, of pure silver, leaving it *in situ*. This is very nearly the operation of infibulation, originally advocated and practiced by Celsus and his contemporaries, and still resorted to, I understand, by the superintendents of insane asylums in the treatment of the satyriasis of their patients. In this instance the ring was made with a peculiar lock, so that it could not only be fastened after its insertion but removed at pleasure afterward.

The patient returned to his home in Indiana and complained bitterly, in several letters, of disturbance at night and want of sleep in consequence of painful erections induced by the presence of the ring. I permitted him to remove it in fifteen days, when these troubles naturally ceased. On the 4th of May, he wrote that his habit had been broken up, and that he was, in accordance with my suggestions, contemplating matrimony.

A patient whose case presented some exceptional features, consulted me in June of 1877. He was 19 years of age, bilio-lymphatic temperament, and well nourished, his muscular system presenting an unusual development. The expression of his face was peculiar and not that of the average youth who masturbates, the peculiarity being due to an unusual prominence of the eyeballs. In consequence of this, the sclerotica was exposed in a wide ring about the cornea, highly suggestive of exophthalmos. He seemed quite intelligent and expressed the greatest grief over his condition.

He stated that when sixteen years of age he had, for a period of several months, made vain attempts at intercourse with a girl of his own age, whom he met in a clandestine manner almost every day. A necessary separation of the two occurred, and thereafter nothing unusual occurred, until in a few months he commenced to practice masturbation. These acts were repeated each morning, immediately upon his rising from bed, and were, as he stated, entirely beyond his control. They were

preceded by a severe pain in the head, usually, but not invariably occipital, and then he seemed to lose control of himself. Without the slightest degree of sexual or erotic desire, he at once proceeded to perform the act with violent and even furious manipulations. At first seminal discharges were induced, but these, in his brutal performances, were soon succeeded by blood, and thereafter, nothing but the discharge of blood relieved him. On these occasions he experienced not the least pleasurable sensation but on the contrary severe pain. His tongue was coated, his bowels constipated, his sleep disturbed, his urine acid and loaded with urates, pulse and temperature normal. There was slight seborrhæa oleosa of the surface of the skin.

His external genitals had not the relaxed and shrivelled appearance which is too often observed in the confirmed masturbator. The testes were not shrunken but firm and full, the prepuce, wide, not redundant, and worn back of the corona glandis. The meatus admitted readily a No. 23 sound (Fr.). Its removal after insertion was followed by blood, which escaped from the urethra, congested in consequence of the severe mechanical irritation.

The brother of this patient was taken into our confidence, and every morning afterward for a month, he roused the patient early from sleep, douched the head, neck and chest in an abundance of cold water, and after a generous friction of the surface with a coarse towel, superintended the patient's dressing and advent at the breakfast table. This, with the free use of the alkaline bicarbonates (I prefer the salt of potass), regular evacuation of the bowels under the influence of cathartics, and the occasional employment of the bromides of potassium and sodium, resulted in relief. Two months afterward, the patient presented himself in a greatly improved condition both of mind and body. He had had but one access since the inception of his treatment, and this had been broken up by his brother. He has not consulted me since, and I am led to think the success was permanent, as he seemed fully sensible of his improvement and grateful for the relief afforded.

I conclude with a brief abstract of a case which seemed to me, when I first read a report of it in 1876, strikingly illustrative of

the influence of centric disturbances in the production of onanism. The observation was made by Dr. Prevost, of Cambremer. (*L'Année Médicale, Caen*, No. 1, Vol II., p. 7, Dec. 1876):

X——, 22 years old, had an agreeable expression of countenance, brown hair, forehead slightly retreating, and was rather fully developed in the occipital region. He had left inguinal hernia, no prior interference with general health, and, though disposed to be isolated and taciturn, had a good reputation among his school-fellows. His parents were in robust health.

On Jan. 5, 1875, about 6 p. m., after a generous dinner, he retired to his room and locked the door. His mother, anxious in consequence of his behavior when at the table, followed, and through the keyhole saw him erect and fully dressed, engaged in the act of violent masturbation. This completed, he threw himself on his bed in his clothes and slept. The mother informed the father of what she had seen, and thereafter the young man was closely watched.

Nine days afterward, the patient left his friends at a picnic party in the woods, and this time the father followed him and witnessed the same scene as before. After returning home in the evening, the parent sternly reprimanded his son for his misconduct, when the latter informed him that he was very miserable, that for more than a year he had been subject to attacks of a furious sort in which masturbation became an irresistible necessity. He begged his father's forgiveness and promised that when he next had premonitions of his trouble, he would inform his friends, who might then secure his hands behind his back.

After dining on the 28th, he notified his father that he was about to be affected as before, and would soon be almost unconscious of what he was doing. His hands were immediately bound firmly behind his back, when he was at once seized with a convulsion that lasted for ten minutes. He fell to the ground, his respirations became accelerated, his face pallid. He also uttered hoarse cries in a strange voice. His father, thoroughly alarmed, hastened to liberate his son's hands, when the latter at once arose and in the presence of both his parents proceeded to perform the act of masturbation in the most furious manner, without pausing an instant. This over, he burst into tears, and concluded by

falling asleep as usual. Dr. Prevost, who was then summoned, ascertained that the young man had no sexual desires. The first intimation he would have of the access, would be an insupportable pain in the back part of the head, occurring sometimes an hour or two before, sometimes immediately after meals; then there would be an erection of the penis and unconsciousness of subsequent events, so that the presence of strangers presented no bar to the execution of the act. On one occasion of this sort, when observed by his physician, the latter describes his condition as disgusting in the extreme, his face pale, his features contorted, saliva escaping from his mouth—the very picture of a satyr.

Under treatment of various kinds, hygienic, medicinal and dietetic, attacks did not fail to recur with tolerable regularity, February 4th, 12th, 21st; March 1st, 7th, 16th, 23d, and at nearly equal intervals up to July 2d. At this time leeches were ordered to be applied to the nucha as soon as the pain was perceived. On July 11th, an access of intolerable pain was felt, and fifteen leeches applied to the back of the neck. The access was aborted. On August 1, recurrence of pain, re-application of leeches, no attack. This proved to be the last. Eighteen months after, the patient had had no return whatever of his former symptoms.

117 S. CLARK STREET.

CASES OF PURPURA HÆMORRHAGICA, WITH OBSERVATIONS ON THE PATHOLOGY AND TREATMENT OF THE DISEASE.

BY N. S. DAVIS, M. D., CHICAGO, ILL.

(*Read to the Chicago Medical Society, April*, 1878.)

Cases of simple purpura, or purple spots accompanied by moderate cellular inflammation and slight general febrile disturbance, are not very infrequent; neither is it rare to find cases presenting petechial and ecchymosed spots upon the cutaneous surface connected with various pathological conditions of the blood and tissues, of a temporary character. But cases of true purpura

hæmorrhagica arising from a more or less permanent hæmorrhagic diathesis, or what is called in the seventeenth volume of Ziemssen's Cyclopædia, hæmaphilia, are fortunately, rarely met with. This is shown by the fact that Grandidier, who has given diligent attention to the literature of this subject, found only 631 reported cases prior to 1872, and Immermann, in his recent article has added only 19 more, making a total of 650 cases. During the twenty-nine years that I have practiced in this city, I have notes of only five well marked cases coming directly under my own observation. The first of these was a boy aged twelve years, who had commenced the trade of stone cutter, but of whose parentage or family history I obtained no record. At the time he came under my observation, he was suffering from extensive hæmorrhage into the skin and subcutaneous areolar tissues. He presented not less than four blood-tumors, hæmatoma, varying in size from one to six inches in diameter. The largest was on the posterior part of the chest near the lower angle of the scapula. Besides these tumors there were large numbers of ecchymosed and petechial spots, both on the body and limbs. He was tall, spare in flesh and moderately anæmic in appearance, but the action of the heart was increased both in force and frequency. He complained of great weakness, but had no external hæmorrhage. He began to exhibit the hæmorrhagic tendency when he was between five and six years of age. The slightest cut or injury would bleed in the most persistent manner; and any severe muscular exercise was sure to induce hæmorrhagic extravasations into the subcutaneous tissues. By rest, mild diet, and the use of astringents and tonics, he recovered from the attack for which he first came under my observation; but other attacks less severe occurred three or four times during the next two years, after which I lost all further knowledge of his progress.

The *second* case was a boy aged five years, brought to me from Peoria. He had had frequent and persistent attacks of both epistaxis and interstitial hæmorrhages for two years or more, and was at the time of coming under my care exceedingly feeble. He had an anæmic appearance; rheumatic pains in his limbs with some serous effusion into the synovial membranes of the knee and ankle joints; numerous petechial and ecchymosed spots in the

skin; a quick and irritable pulse with increased cardiac impulse, but no valvular murmurs.

He was kept on a mild diet, chiefly of farinaceous articles and milk; and the use of suitable doses of digitalis, ergot, and tincture of the chloride of iron several months, during which his health and strength much improved, and his hæmorrhages were much less frequent. His subsequent progress I have never learned.

The *third* case was that of a boy aged only two and a half years, living on Halsted, north of Division street, in a poor family of Irish parentage. I was first called to see him eight years since. At that time blood was oozing from the gums around the two back teeth on one side of the mouth, from the edge of the tongue, and from the nose. It had been in progress more than a week and he was much exhausted. His knees and ankles were some swollen and his face appeared puffy and bloated, with numerous petechial spots on the skin; pulse frequent and weak, but the heart's action increased. His mother stated that he began to exhibit a disposition to persistent bleeding on the slightest accident before he was a year old, and for several months past had bled so often from the nostrils that she had little hopes of his recovery. For the arrest of the existing hemorrhage I directed a solution of persulphate of iron in water, in such doses that he would get half a grain every three hours, and tincture of digitalis and fluid extract of ergot, each two minims, half way between the doses of the iron. He was kept at rest and fed on bread, rice and milk. In about two days the external bleeding ceased, and soon after the petechial spots began to fade. The tincture of chloride of iron was then given instead of the persulphate, and a minute dose of strychnia added to each dose of the iron, giving it only after each meal-time. The digitalis and ergot were continued before each meal and at bed-time. He continued to improve until in about four weeks all appearance of hæmorrhagic spots had disappeared and his general health was good. The iron and strychnia were then discontinued, but the digitalis and ergot were continued with only intervals of three or four days at a time for more than a year. During the first half of the year he had three or four moderate turns of epistaxis, and during the last six

months no spontaneous hæmorrhages. Every bruise or slight scratch, however, still showed the existence of the diathesis. The mother was now instructed to give him only one dose of the digitalis and ergot at bed time each night; to guard him as fully as possible against all traumatic injuries, and to give suitable doses of the medicine four times a day whenever any appearance of hæmorrhage, either spontaneous or traumatic, should occur. The mother followed the directions faithfully for three years, during which he grew so well and had so little trouble that further use of medicine was omitted. He continued to do well until about one year since, when the mother brought him to my office with epistaxis which had persisted moderately three days; two or three blood tumors on his body and thighs, with several petechial spots in the skin. I directed a return to the use of the same remedies as before, in doses suited to his increased age, and the bleeding was again arrested, and I have heard nothing from him since.

The *fourth* case was a boy on Lytle street, in the West Division of the city. He came under my observation when he was about four years of age. The hæmorrhagic tendency had been observed from his infancy, and was so strongly marked that his bleedings were both external and interstitial, provoked by the most trifling causes, and persisting several times until death seemed almost inevitable. I recommended the same general management hygienic and medical as in case three, just detailed. He has been somewhat under my observation for four or five years. The treatment had the influence to greatly improve his condition, lengthening the intervals between his hæmorrhagic attacks, and rendering them less persistent, but the last time I saw or heard from him, which was about one year since, he was suffering from an extensive hæmorrhagic extravasation into the areolar tissue of one leg and thigh, with severe rheumatic pains.

The fifth and last case is a young woman aged about 18 years, who first came under my observation last winter, in the early part of February. She had been bleeding from the nostrils so freely for several days that her face was very pale, and the physician in attendance had plugged both posterior and anterior nares, and was giving her half-drachm doses of fluid extract of ergot every two hours. Her pulse was feeble, extremities cold,

the skin on the upper and lower extremities exhibiting numerous small petechial spots with several much larger ones on the trunk of the body, and a feeling of soreness or muscular hyperæsthesia throughout the system. Her menstrual functions had been regular as to time and only slightly more free than the average of healthy women. There was nothing in her mode of living or in the appearance of her gums to indicate a scorbutic tendency.

As the plugging of the nostrils had stopped the direct flow of blood, she was advised to continue the use of the ergot in doses of fifteen minims of the fluid extract in combination with the same quantity of the tincture of digitalis, every four hours. Entire rest and mild diet were enjoined, and she soon began to improve. After a week had passed with no return of the bleeding and the petechial spots had begun to fade, the ergot and digitalis were restricted to a dose three times a day and ten drops of dialyzed iron and one-thirtieth of a grain of strychnia were given after each meal time. In about three weeks the hæmorrhagic spots had all disappeared and the patient appeared quite well. She continued so until the second week in March, when she again began to be troubled with persistent epistaxis. It was controlled however, before she became greatly reduced by the internal use of ergot and digitalis with rest. This patient had been subject to hæmorrhagic attacks once in two or three months for the last three years.

The character of the bleeding in cases of true hæmaphilia is somewhat peculiar. Instead of coming from one or more distinct vessels, it oozes from the whole bleeding surface, whether it be that of a wound or a membrane.

The place from which the bleeding comes may be either internal, interstitial, or external from free surfaces. Of the latter the relative frequency of the bleeding from different parts is shown by the following statistics given by Immermann: In 308 cases, 152 bled from the nose; 38 from the gums; 35 from the intestines; 17 from the lungs; 16 from the urinary organs; 14 from the stomach; 10 from the female genital organs; 6 from the tongue; 5 from the ears; 4 from the fingers; 4 from the scalp; 3 from the caruncula lacrymalis; 2 from ulcers of the skin; 1 from the eyelids, and 1 from the umbilicus.

It will be seen that epistaxis greatly predominates in frequency; yet the bleedings may occur from almost every part of the body.

In regard to the causes contributing to the formation of the hæmorrhagic diathesis but little is known. That the cases are in large part congenital is evident from the early age at which the disease first manifests itself. Thus of 95 cases collected by Grandidier, 58 began before the completion of one year of age, and 23 began between the ages of one and six years; to which may be added 4 of the 5 related in this paper. In regard to hereditary influence, it appears that the 650 cases compiled by Grandidier and Immermann belonged to 219 families, being in the ratio of nearly three in each family. The influence of sex is still more strikingly illustrated by the same 650 cases, of whom 602 were males and only 48 females; and 4 of the 5 cases related by myself were males.

Pathology of the Disease.—By some, it has been regarded as a morbid condition of the blood, consisting *in deficiency* of hæmatine or red corpuscles, fibrin and plastic constituents. But recent careful analyses have shown that these ingredients, especially the iron and fibrin are in excess instead of being deficient in quantity; and consequently investigations in this direction afford no explanation of the morbid phenomena. Careful post mortem examinations have shown in some cases, cardiac hypertrophy with or without enlargement of the aorta; in others the blood vessels were represented as lying more superficial and with thinner coats, but with less capacity of the arterial termination in the capillaries. It is acknowledged that these anatomical changes or defects are not present in all cases and that the last named is very difficult to determine. Yet on this vague idea of the want of capacity in the termini of the vessels, Immerman founds his explanation of the phenomena of the disease. He claims that there is in hæmaphilia generally an excess of blood or plethora of the vessels and a remarkable rapidity of hæmatosis or reproduction of blood after hæmorrhages; and this in conjunction with the defective capacity of the peripheral extremities of the vessels leads to undue lateral pressure upon their walls and the consequent forcible exudation or extravasation of blood.

If this theory was correct, the periods of hæmorrhage ought always to cease, as soon as sufficient blood had been lost to relieve the vascular fullness and consequently the lateral pressure, which is not in accordance with clinical observations.

It has appeared to me, that the pathological defects or conditions in these cases did not consist in a disproportion between the *quantity* of the blood and the *capacity* of the peripheral extremities of the vessels, but in, either the defective development of the muscular fibers in the middle coat of the smaller arteries, or the defective influence of the vaso-motor nerves on such fibers, or both combined. Another element that I think enters into most of these cases is a defect in the property or affinity belonging to the plastic elements of the blood and the tissues.

We all know that when a part is irritated, among the earliest changes noticable under the microscope are the rapid accumulation and adhesion of the white corpuscles to the walls of the vessels, which together with the constant processes of nutrition and disintegration involving definite atomic changes, prove the existence of a special affinity as a property of living plastic elements.

It is not the mere retraction of a severed vessel and the formation of a clot that arrests hæmorrhage in healthy subjects. On the contrary, I am satisfied that injury to a vessel in a previously healthy state induces a reflex influence through the vaso-motor nerves, causing tonic contraction of the muscular fibers of the vessel or vessels implicated, and this, with the rapid accumulation and adhesion of corpuscles and plastic constituents to the walls of the vessels, has far more to do with the permanent suppression of hæmorrhage than the mere retraction of the vessel and formation of the clot. If I am right in this view, it is easy to perceive that a defect in the development of the muscular fibres of the vessels with an impairment or paralysis of the vaso-motor nervous influence, whether congenital or acquired, would constitute a condition highly favorable for the occurrence of frequent and persistent hæmorrhages.

Treatment.—As would be inferred from the cases reported in the first part of this paper, I place more reliance on the use of digitalis and ergot, internally, aided by a solution of persulphate of iron applied to the bleeding surfaces, than on any other reme-

dies. During a period of actual bleeding, the remedies should be given in pretty full and frequent doses, aided by entire rest and mild diet. After the bleeding ceases I continue the same remedies, in smaller doses, three times a day, from three to six months, interrupting them occasionally for three or four days at a time. Careful attention should also be given to keeping the digestive and excretory organs in good order, and there should not be too much haste in promoting the re-formation of blood by resorting to rich food and preparations of iron. Reliable analyses have shown that both iron and fibrine are generally present in the blood of these patients in quantity above the normal proportion, and the heart is unduly excitable. This would indicate a diet of farinaceous articles, milk and vegetables, with only a sparing use of meat, and such nervous excitants as tea and coffee; and my own experience has fully corroborated this view. I have also found it advantageous to limit the patient in the use of water or other drinks habitually, because free indulgence in this respect rapidly increases the mere bulk of the blood without adding to its plastic elements.

CASES OF LITHOTRITY; AN INSTRUMENT FOR FINDING SMALL REMAINING FRAGMENTS OF STONE BY AUSCULTATION.

By Edmund Andrews, A. M., M. D.

There is no denying the fact, that we of the western continent have grossly neglected the operation of lithotrity, and I confess to my full share of the sin. We have gone on cutting patients by scores and hundreds, when a large portion of them would have been more safely treated by the operation of crushing.

In children, cutting is, to be sure, very safe, and crushing nearly impracticable, but in adults the facts are as follows:

Mortality of lithotomy in patients over 20 years of age.

	Cases.	Deaths.	Per cent. mortality.
Sir Henry Thompson's table.....	723	150	21
Keith's table, *Brit. Med. Jour.* March 20, 1868.....1312		330	25
	2035	480	23

Thus the best authorities in the world give us a mortality of over 23 per cent. for adult lithotomy, or nearly one death in four.

Now contrast this with the results of lithotrity. The following table shows the results of the operation on both continents:

LITHOTRITY.

Authorities.	Cases.	Deaths.
Transactions of N. Y. State Med. Society	49	9
Bigelow, of Boston	6	1
Andrews, of Chicago	6	0
Eve, of Nashville	4	0
Drs. Curtis and Porter, quoted by Bigelow	2	0
Report Boston City Hospital	1	0
Report Pennsylvania Hospital	14	2
Brodie, of England	115	9
Sir Henry Thompson, of England	422	32
Fergusson, of England	109	12
Keith, of Scotland	116	7
Crichton	122	8
Statistics des Hôp. de Paris, 1861-2-3	56	9
Civiale of Paris	591	14
K. K. allg. Krankenhaus, Wien	42	16
Lücke, of Berne	2	0
Dr. Kerr, of the Missionary Hosp. Canton, China	30	3
	1687	122

Mortality 7 per cent.

As stated above, this shows that lithotrity in adults is very much safer than lithotomy. A glance at the table also shows how American surgeons have neglected the operation. Paul F. Eve's four cases are given in the same paper with a hundred cases in which he performed lithotomy. The Boston City hospital reports only one case, the State Medical Society of New York, 49 cases, and the Pennsylvania hospital only 14 cases, while the principal British surgeons tabulate them by hundreds, and even a distant missionary physician in China sends thirty cases.

I confess to my share of blame in operating heretofore almost altogether by cutting, but the increasing success of lithotrity in

Europe renders it impossible for American surgeons to longer ignore its claims in a suitable selection of cases. I have therefore crushed the stone of late in eight different cases, and thus far without a death. Two of the cases, however are unfinished, so that I cannot include them in the table.

Case I. Adult male. Stone in the bladder, accreted around a roll of chewing gum, which the patient introduced a year ago. Urethra was contracted too small for lithotrite, I therefore kept up a course of dilatation with bougies for two or three weeks before operating. The calculus was then attacked, and crushed at ten sittings in the course of nineteen days. Several subsequent examinations having failed to discover any remnant of the stone or of the gum, the patient was discharged, and is not known to have had any relapse. No dangerous symptoms occurred during the treatment.

Case II. Patient was caught under a mass of falling rock, and received an injury of the spinal cord, which paralyzed the inferior extremities almost completely. About a year later he showed signs of a calculus in the bladder. Eleven months later he came under my care. The lower extremities were still paralyzed, and the bladder with them, rendering a frequent use of the catheter necessary. Exploration showed a stone with a diameter of about an inch. The bladder was frequently affected with some hemorrhage. I gave him five days preparation, by giving freely quinine and bromide of potassium. On the sixth day I crushed the stone. Some cystitis was provoked, but rapidly subsided, and I repeated the crushing on the 8th day. Then followed four days of diarrhœa, which being subdued, I crushed again, on the fifteenth day. On the seventeenth day some pieces became impacted in the urethra and were removed, with great relief. Additional sessions were had on the 19th, 21st, 22d, 25th, 32d and 36th days. After the latter session there was a brisk temporary hemorrhage of the bladder, filling that viscus with clots, which could not be expelled by the patient. They were drawn out by a strong syringe attached to one of the large catheter-like tubes of the wash-bottle. There was no serious inflammation, and on the 44th day the eleventh and last session was had. Several subsequent examinations showed that no more stone was present, and the patient was sent home. The stone was phosphatic but rather hard. This

was a difficult and tedious case, but at no part of the treatment did any alarming symptoms arise.

Case III. This case is remarkable for being executed in defiance of the rule that the patient should observe the recumbent position after each operation. He was a healthy man, about thirty years of age, and lived in a suburban town twelve miles distant from my office. The stone measured a little less than three-quarters of an inch in diameter and was rather soft. The patient declared that there was no arrangement possible in his circumstances, but to come to my office for his operations, and then to return home by rail the same evening. Seeing that the rules could not be enforced, I determined to try him cautiously as he proposed. His cystic trouble was of six years' duration, but the symptoms were quite mild. I therefore very cautiously seized the stone and crushed it, kept him on the lounge an hour or two, and then sent him home to his family physician. Sixteen days later I repeated the operation, and two days afterwards made the final crushing, three sessions in all. Subsequent soundings showed no more stone, and he was discharged cured. This case turned out well, but it would certainly be a rash plan to allow ordinary parties to risk themselves by a twelve-mile ride after each session.

Case IV. Patient aged 50 years; bladder very sensitive; stone rather more than an inch in diameter, pretty hard and of two years growth. I proceeded at first with great caution, allowing plenty of time between the sessions. Ten sessions were had scattered through two months time. There was quite a tendency to urethral chills after the sessions, which I restrained by large doses of quinine. However, he grew much more tolerant of instruments as time progressed, and was discharged cured.

Case V. Patient 68 years of age, and greatly troubled with his disease. Twenty years before, he had been lithotomized, and had 17 small stones removed at once.

The present stone was half an inch in diameter, very soft and quite difficult to find and seize. I crushed it at three sessions, but had several searches in which I failed to grasp it, and dared not continue the manipulations long, on account of the constant tendency to cystitis, urethral chills and hæmorrhage. Once the blad-

der filled with clots obliging me to empty it by the suction of a strong syringe through a No. 12 catheter.

Quinine was used freely to restrain the chills and a steady use of benzoic acid by the mouth greatly relieved the cystic irritation. The latter remedy was used in consequence of a suggestion of Dr. Lucius Clark, of Rockford. The patient was discharged cured.

Case VI. Patient aged about 48 years, and in medium condition. The stone was nearly three quarters of an inch in diameter, and excessively hard, being composed chiefly of oxalate of lime.

I crushed four or five times, besides making a few fruitless searches, during 22 days. No severe symptoms occured. The patient was kept on cinchona preparations copiously, and was discharged cured.

Case VII. Patient aged 54. Case unfinished.

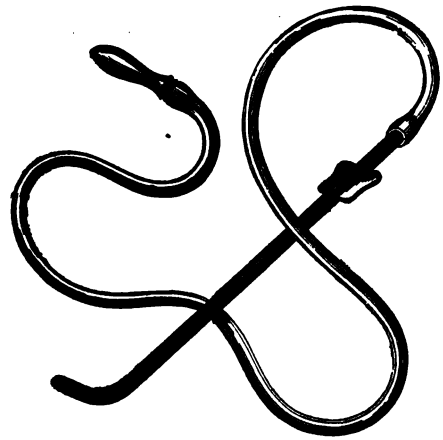
Case VIII. Patient aged 64. Feeble. Case unfinished.

Prof. H. Bigelow, of Boston, published in the last number of the *American Journal of the Medical Sciences*, an article on the performance of lithotrity by a single operation. He gives five cases of his own and one of another surgeon, operated on at a single sitting. One of the six died. The operations lasted on the average nearly an hour and a half and the patients were under ether. Dr. Bigelow thinks it is reasonably safe to rid the patient completely of the stone at once, and thus save the irritation of the remaining fragments and the loss of time involved in the slow method. His mortality of one patient in six is a bad result, so far as it goes, but the number being so small one cannot conclude with certainty that more experience would prove equally dangerous. My own opinion however, is that the safety of lithotrity lies in the fact that the operation can be done a little at a time. In my experience prolonged working in the bladder with the lithotrite is decidedly more irritating than short sessions. In stones of average size, and bladders of corresponding degree of inflammation, one of these hour and a half sessions will probably be as dangerous as lithotomy, but in very small stones contained in bladders of little irritability, I think the plan of finishing the work at once will be found safe and judicious.

Prof. Bigelow has made some useful improvements in the tube and wash bottle. He has also studied the action of instruments

in dead bodies by inserting them into the bladders, and then injecting them with plaster of paris. The plaster when hardened gave the form of the vesical cavity as modified by the pressure of the instruments at various points. The article is highly instructive, and shows the principles which should guide one in searching for fragments, and how pressure of the instrument at the lower fundus of the bladder makes a funnel-shaped hollow where all fragments tend to fall into the jaws of the lithotrite or the orifice of the wash tube.

One of the difficult points in lithotrity is to know when all the small fragments are removed. To facilitate the discovery of the last small bits, I have devised an auscultating sound, which will convey to the ear the faintest touch of a particle of stone.



This instrument consists of a metallic searcher of the ordinary form, but made hollow. To the outer end is attached a small rubber tube and ear piece, like those used by aural surgeons in listening to the tympanum. This transmits to the ear of the surgeon with great distinctness the sound of very minute particles of stone, and adds greatly to the feeling of security when, on the final search, the patient is discharged as cured.

I cannot but feel that American surgeons, myself included, have been negligent in cutting rather indiscriminately large numbers of patients, when about one half of them could have been treated more safely by lithotrity. However, let no one be so

enthusiastic as to suppose that the crushing operation should supersede cutting in all cases. There is perhaps, no more enthusiastic lithotritist living than Sir Henry Thompson, and his matured opinion delivered only a few weeks ago, is that if lithotrity be applied to too large stones—that is to stones much above the size of an almond, the results will not be superior to those of lithotomy in the same class of cases.

The table of lithotrity, given above, shows nominally that the operation kills only one-third as many patients as adult lithotomy; but this, if taken without allowance, would overstate the difference between the operations. The lithotrity patients, on the average, are selected from those having the smallest stones and the soundest bladders, while the lithotomy cases are taken indiscriminately. Still any one who considers the great numbers of men with very small stones lithotritized by Sir Henry Thompson without a death, must admit that it would be impossible to cut the same number of the very best patients without some deaths. The results thus far gathered show that in adults, where the stone is not larger than an inch in diameter, most cases should be lithotritized, and Thompson says that all adult female cases should have the same operation.

A CASE OF OVARIOTOMY.

By William Meacher, M. D., Portage, Wisconsin.

The following case of ovariotomy, is published, not because it presents any novel features, but because in certain particulars it ought to be added to the literature already accumulated, in order to show the great importance of placing the patient under the best possible hygienic treatment.

In Nov., 1877, Miss F., aged 21, came to see me, by the advice of her physician—Dr. Blake, of Lodi, Wis. She had an ovarian tumor; but as she was not troubled in any way except by the abdominal enlargement, I advised letting it alone for the present.

On the 8th of January following, I tapped the cyst, removing a

pailful of coffee-colored fluid, which was highly albuminous, and showed, under the microscope, crystals of cholesterine, and the "gorged granule" described by Peaslee. The gorged granule is, however, not considered so valuable a diagnostic sign as it was before Prof. I. N. Danforth, of Chicago, discovered it in the fluid of cystic disease of the kidney. She was tapped again in April. After this second tapping, it was evident that there was more than one cyst. Previous to this I had believed the tumor to be unilocular, the abdomen being uniformly distended, and uniformly diminished by the first tapping. Ovariotomy was performed by me during the forenoon of the 23d of June 1877, with the assistance of Drs. M. M. Davis, Wm. Fox, O. D. Coleman, Blake and McKeeby.

The patient's health had been rapidly failing for several weeks previous, but I was not made acquainted with the fact, or I should have operated sooner.

Squibb's chloroform was administered, the patient having previously taken ¼ gr. of morphia and 1 ℥ of whisky.

The incision was between five and six inches in length. Adhesions were found, very extensive and so strong that I was obliged to use both hands, and great force to tear them asunder.

The tumor proved to be multilocular in the full sense of the word: four different cysts had to be tapped before the former could be extracted through the incision. There were about fifteen different cysts, each one containing fluid differing in color and consistency from the others. Two, each about the size of a hen's egg, contained pus.

One vessel from the omentum was tied with a silk ligature, the ends cut short, and returned to the abdominal cavity. The pedicle was secured by a Spencer Wells'-clamp. The abdominal cavity was scrupulously sponged with fine, soft sponges, which were *rendered perfectly free from sand and dirt*, which I believe cannot always be said of the sponges used in such cases. The water used was well-water, filtered, and corbolized.

The wound was closed with silk sutures two-thirds of an inch apart, and was covered with a strip of cotton wadding, about three inches wide, and held in place by strips of adhesive plaster applied transversly, reaching entirely across the abdomen. A

piece of soft cotton cloth was laid over all, and a broad flannel bandage passed around the body completed the dressing.

The operation was a very difficult and tedious one, so much so that none of the physicians present thought the patient would survive. The operation was concluded at one p. m., and during the afternoon, as often as required, I gave small doses of morphine, and occasionally a tablespoonful of beef tea and a spoonful of wine. In the evening the pulse was 106; patient suffered but little, was very thirsty, took cold water freely. I left her at 9 o'clock, directing the nurse to give morphine when necessary to control pain, to give beef tea now and then, and to use the catheter every six hours.

Sunday morning, 24th. Found her pretty comfortable, pulse 106, though it had been up to 125 during the night; examined the stump and found a little bloody fluid oozing around it; applied solid perchloride of iron. She vomited some in the afternoon. A distressing cough, with more or less dyspnœa, came on in the afternoon. Patient said she used to be troubled with asthma before she had the tumor. In the evening the pulse was 120.

Monday, 25th, morning. The nurse informed me that the patient passed a bad night on account of bronchial trouble; pulse continued 120 all night. The cough and dyspnœa were not quite so bad during the day.

Tuesday morning, 26th. Was more comfortable, expectorating quite freely and breathing more easily; some soreness about the abdomen, but much less than could be expected from the cough and labored breathing; very little pain, skin moist. Pulse continued 110 during the day.

Wednesday morning, 27th. She looked bright and felt pretty well; she coughed a good deal the first part of the night but rested well the latter part; the pulse was 110. She took food well during the day; had very little pain or soreness; wound seemed to be well united. Should have removed the stitches but feared to do so on account of the cough. Urinated in the afternoon without the catheter.

Thursday morning, 28th. The pulse was 94; expectoration quite free; appetite improving; she wanted beefsteak and potatoes; no pain or soreness about the wound; removed the stitches.

Saturday, 30th. Found her doing well; bowels had acted the previous evening. Bronchial trouble had assumed an intermittent form. I therefore prescribed quinia 2 grs. every four hours.

Monday morning, July 2d. The cough was gone. The urine had become turbid and irritating. Prescribed carbonate of lithia in soda water.

Wednesday morning, 4th. Clamp came off; patient felt well; tongue clean; appetite good; no soreness about the abdomen; could lie on either side comfortably.

I did not see the patient again, but convalescence was rapid and complete.

Now this was certainly not a favorable case to begin with. The patient's health was rapidly failing, the tumor was one of the worst of its kind that I have had to deal with, the operation difficult and tedious, and the shock very severe. I believe the recovery in this case was, to say the least, largely due to the patient's surroundings. Her home is about 10 miles from Madison, situated in one of the most beautiful and healthy sections of this State. The house is a large, well built farm house. The patient's room was in the second story, a large airy room, with windows on two sides, provided with good shutters. The place was perfectly quiet, and the patient free from disturbance of any kind.

I believe that if every patient who had to undergo ovariotomy could be similarly situated, and at the same time could avail herself of the services of an ovariotomist of large experience, the percentage of deaths from this operation would be greatly reduced.

ARSENIC IN SUBNITRATE OF BISMUTH.

By J. H. Salisbury, M. D., Chicago.

It is well known that the subnitrate of bismuth is apt to contain arsenic as an impurity, but the frequency with which it occurs is probably not fully appreciated.

With a view to determining the frequency of this contamination of the preparations of bismuth, and the relative quantity

which the specimens ordinarily sold contain, I undertook some investigations at the laboratory of Rush Medical College, under the direction of Prof. W. S. Haines.

Eighteen specimens of the subnitrate of bismuth, bought at different drug stores were examined. All the specimens but two were from reputable manufacturers—the names of the manufacturers of these two preparations were not known. Arsenic was found in thirteen of these. The quantity was determined in three and found to be 1-14 per cent. in the first; 1-10 per cent. in the second and 1-5 per cent. in the third.

Five specimens of subcarbonate of bismuth were examined and arsenic was found in all.

This result was quite unexpected as the subcarbonate is preferred by some to the subnitrate, as being less likely to contain arsenic on account of the mode of its preparation. My analyses would seem to show that this opinion is unfounded.

The arsenic in subnitrate of bismuth exists in the form of arseniate of bismuth—the percentages given above are calculated as arsenic acid.

The method given in the U. S. Dispensatory, p. 1065, for freeing the subnitrate from arsenic by boiling twice successively with potassic hydrate, dissolving the resulting oxide of bismuth in nitric acid, and reprecipitating with water, is effectual if carefully performed, as one of my experiments showed, in which I examined a specimen and found arsenic and examined the same specimen after purification by this process and found none. In another case however the process was less successful, and the subnitrate showed the presence of arsenic after attempted purification.

Arsenic in the preparations of bismuth is liable to be a dangerous impurity. Two cases are given by Taylor on Poisons, p. 470.

In one, puffiness of the eyes and gastro-intestinal irritation followed the taking of subnitrate of bismuth which was shown by analysis to contain a formidable proportion of arsenic. In another, a child showed symptoms of poisoning from subnitrate of bismuth given to control diarrhœa. The bismuth was shown to contain arsenic.

The largest quantity found in my analyses would amount to

nearly $\frac{1}{8}$ of a grain in a drachm. This might produce very serious results if the subnitrate were given to a child or even to an adult, in the large doses often recommended to contol vomiting or diarrhœa.

The impurity is more dangerous from the fact that subnitrate of bismuth is usually regarded as a harmless drug, and hence is likely to be prescribed in large doses.

It seems very likely that this impurity when existing in quantity insufficient to produce poisonous effects, may counteract the sedative effects of the bismuth and thus render the medicine comparatively worthless.

It is an interesting question whether the good effects of subnitrate of bismuth in chronic gastric catarrh and in vomiting of various kinds, may not be due, to a certain extent, to the arsenic which it contains. Drop doses of Fowler's solution are recommended by Bartholow for chronic gastric catarrh and for some kinds of vomiting.

If subnitrate of bismuth containing 1-10 per cent. of arsenic were given, ten grains would contain an amount rather more than equivalent to a drop of Fowler's solution.

If the arsenic has in this way any beneficial effect it would be much better to have the preparations of bismuth pure, and to use in conjunction small doses of some preparation of arsenic so that definite doses could be given. Perhaps the arseniate of bismuth would be found to be an efficient therapeutic agent for this purpose.

In conclusion it is evident that sufficient care is not taken to free the preparations of bismuth from this dangerous impurity, so that the physician may know precisely what he is giving.

COLORLESS TINCTURE OF IODINE.—A mixture of tincture of iodine and carbolic acid will gradually produce tri-iodophenol, which is soluble in the alcohol. Hence the disappearance of color. The ingredients generally used are: ℞. tinct. iodinii comp. *m* xlv.; acid. carbolic, *m* vj.; glycerini fl. ℥ i; aquæ fl. ℥ v.; M. This is sometimes called carbolate of iodine. The color disappears in from eight hours to ten days.—*Can. Med. Record.*

Clinical Reports.

NOTES FROM PRIVATE PRACTICE.

Fibroid Tumor of Uterus successfully treated by Hypodermic Injections of Ergotine.

On Nov. 25th, 1877, I was called to see Mrs. L., aged about 47. On inquiry, I found that she had been subject to an almost constant flow of blood from the vagina, for nearly two months past. She was so much exhausted by this as to be obliged to remain in bed. Defecation was performed with great difficulty, and the fæces were flattened. She also complained of various obscure pains over the region of the uterus and left ovary. She had been treated during this time for "change of life," and had been gradually getting worse.

I found the cervix in a normal position and apparently healthy. A body, which I at first supposed to be the uterus, occupied the posterior part of the pelvis. This body seemed to be of about the size of the clenched fist of an ordinary sized man, was immovable, and joined the cervix at about a right angle.

A rectal examination showed that the gut was almost occluded by this tumor. Being in doubt whether I had to deal with a retroflexed and hypertrophied uterus, or a fibroid tumor of the same, I introduced the uterine probe, which showed that the organ was in normal position, and that its cavity was slightly enlarged. The diagnosis then could admit of no doubt. Here was a uterine fibroid, which was already encroaching dangerously on the rectum, and was evidently gradually increasing in size, as was shown by the fact that defecation was performed with increasing difficulty. What was to be done? I had read many conflicting opinions as to the efficacy of hypodermic injections of

ergotine in such cases, and as the preponderance of evidence seemed to be favorable, I determined to give the remedy a fair trial.

Without going into a detailed history of the case, it is sufficient to state that under this treatment, combined with drachm doses of fluid extract of ergot by the mouth three times daily, the tumor gradually became smaller, the hemorrhage at the same time diminishing, until at the end of one month (when treatment was discontinued), the hemorrhage had entirely ceased, the bowels were moved without difficulty, and the tumor was reduced to about the size of a small hickory nut. I am aware that the above stated result seems almost incredible, and yet "facts are stubborn things."

The injections were mainly made in the arm, and were repeated sometimes every day and sometime every other day.

The treatment was discontinued at the time stated, because the patient was to all appearance, and as far as she could discover, well; and because I was satisfied that the remains of the tumor would give no particular trouble, and would most likely disappear entirely.

At this date (April 20th, '78) Mrs. L. expresses herself as feeling better than she has for years. She has menstruated with tolerable regularity up to this time.

M. G. SLOAN, M. D.

CHARLOTTE, IOWA.

Superfœtation or Twin Conception?

I was called, March 19th, to attend Mrs. D., aged 41 years, in her eleventh confinement. In due time she was delivered of a fine, healthy female child, weighing ten pounds. After I had tied the cord and handed the child to the nurse, I proceeded to ascertain if the placenta had been expelled, and, on introducing my finger into the vagina, I found there another fœtus. On examination, I discovered it to be about four months old, and in a perfectly healthy condition, there being no sign whatever of decomposition, but, on the contrary, all the appearance of having been alive when labor set in.

Its membranes were entire when expelled, but I neglected to

make any examination as to the insertion of its umbilical cord, and cannot say whether there was more than one placenta. There was nothing else about the case in any way unusual, and the mother made a good recovery, the child also doing remarkably well.

Query. Was this originally a twin conception, or was it a case of superfœtation?

T. A. SCOTT.

WARREN CO., ILL.

EXTERNAL USE OF TINCTURE OF BELLADONNA IN NIGHT-SWEATING.—Dr. J. T. Nairne, (*British Medical Journal.*)

For some little time past I have employed the common pharmacopœial tincture of belladonna for sponging the body in cases of phthisical and excessive sweating, and invariably with marked benefit. So far as my experience goes, I have found it very much better than anything else; if applied before a sweating comes on, it prevents it; if during the sweating, it almost immediately controls it. Two teaspoonfuls of the tincture mixed with an equal quantity of whisky are quite sufficient (applied with the hand) to cover the whole body and produce the desired effect. I have adopted this method of treatment in my last cases of scarlet fever, which have all done well; but they have not been numerous enough to justify any definite opinion of the value of belladonna applied in this manner.

ABUSES OF MEDICAL CHARITIES.—At the last meeting of the Medical Society of the county of New York, Dr. Geo. Witherell read a report, prepared by the Committee on the Abuses of Medical Charities. In this, it was stated that in Philadelphia, during 1876, one out of every five inhabitants was treated gratuitously at the dispensaries or hospitals; in Boston, during the same period, one out of every four, and in New York also one out of every four. It was shown that only 12 out of 152 applicants for free treatment, whose cases were inquired into, were proper objects of charity.—*Hospital Gazette*, May 2, 1878.

Society Reports.

THE TWENTY-EIGHTH ANNUAL MEETING OF THE ILLINOIS STATE MEDICAL SOCIETY, SPRINGFIELD, MAY 21ST AND 22ND, 1878.

(Reported for The Chicago Medical Journal and Examiner by N. S. Davis, M. D.)

The delegates and members of the Illinois State Medical Society assembled in regular annual session on the 21st day of May, 1878, in the Representatives' Hall at the Capitol in Springfield, and were called to order at 10 o'clock a. m., by Dr. J. L. White, of Bloomington, President of the Society. Prayer was offered by the Rev. Mr. Fullerton, and an address of welcome in behalf of the Committee of Arrangements, was delivered by Dr. B. M. Griffith, Chairmain of the Committee. The list of Standing and Special Committees was called, and the reports and papers assigned to particular hours for reading. Dr. J. F. Todd called the attention of the Society to the death of the late G. W. Crossley, of Princeton; and on motion of Dr. T. D. Fitch, the President was requested to appoint a committee of three to report resolutions of respect for the memory of Dr. Crossley. The President appointed Drs. J. F. Todd, T. D. Fitch and T. F. Worrell such committee.

The President, Dr. J. L. White, of Bloomington, delivered his annual address, which was listened to with pleasure and profit, and a copy requested for publication in the transactions of the Society. Governor Cullom having come into the hall to listen to the address of the president, was at its close escorted to the platform and introduced to the Society by the vice-president, Dr. E. P. Cook, of Mendota. The Governor responded in a brief and

very appropriate address, in which he alluded to the establishment of a State Board of Health, and the operation of the law to regulate the practice of medicine in this State. He stated that the doubts entertained at first, in regard to the propriety of those measures, had been entirely removed by their practical operation thus far, and he should give them a cordial support. His address was listened to with much pleasure. Dr. T. D. Washburn, of Hillsborough, then read a brief paper highly eulogizing the medical laws establishing the State Board of Health and regulating the practice of medicine, which was received and referred to the Committee of Publication.

Afternoon Session.

The Society was called to order by the president at 2:30 p. m.

The Censors reported on several candidates who had been proposed for election as permanent members, and they were unanimously elected.

Dr. T. D. Fitch, chairman of the committee on the revision of the constitution and by-laws, made a report embodying a complete revised constitution and by-laws, which were read, section by section, and adopted with but little discussion. The chief items of difference between it and the old constitution, are, the omission of the provision for selecting *permanent members;* the insertion of a clause providing for honorary membership by non-residents of the State; and another providing for a permanent *Judicial Council,* in the place of the Board of Censors. The constitution and by-laws as adopted were referred to the Committee of Publication, with instructions to publish them in the Transactions, and also a separate edition in pamphlet form.

Dr. D. Prince, of Jacksonville, presented and explained the operation of a galvanometer, for measuring or indicating the intensity of the galvanic current during the application of galvanism or electricity to medical and surgical purposes.

Dr. N. Wright, of Chatham, read a report on the action of malaria and the treatment of its effects; the chief peculiarity of which was the advocacy of hypodermic injections of sulphate of morphia, to suppress or mitigate the paroxysms of an intermittent fever. He claimed that the hypodermic injection of a mod-

erate dose of morphine at the commencement of the cold stage always cut that stage short, and rendered the hot and sweating stages very slight. He did not claim that it prevented the recurrence of the paroxysms. The paper led to an interesting discussion concerning the best mode of treating chronic agues and other effects of malaria, during which Dr. N. S. Davis advocated extreme caution in the use of morphine and other active narcotics hypodermically.

Dr. T. D. Fitch, of Chicago, Chairman of the Committee on Obstetrics and Diseases of Women, read an interesting report, after which the society adjourned to 9 o'clock Wednesday morning.

WEDNESDAY MORNING SESSION.

The Society was called to order at 9 o'clock A. M., by the President.

The report of the Committee on Obstetrics being in order, Dr. E. R. Willard, of Wilmington, read a paper on puerperal eclampsia, and Dr. Ellen Ingersol, of Canton, read an additional report on some of the more common matters, that are apt to be neglected in the management of ordinary labors. On motion of Dr. F. B. Watts, the report of the Committee on Obstetrics, and the accompanying papers, were received and referred to the Committee of Publication.

A recess of ten minutes was taken, to allow the members from each county to select one of their number as a member of the Committee on Nominations; after which Dr. C. W. Earle, of Chicago, read the report of the Standing Committee on Practical Medicine. It was followed by a discussion participated in by Drs. S. O. Richey, J. S. Jewell, S. J. Jones, E. L. Holmes, of Chicago; N. B. Buck, of Springfield; and Dr. Johnson, of Peoria. The report was referred to the Committee of Publication.

Dr. Moses Gunn, of Chicago, Chairman of the Standing Committee on Surgery, read an interesting report, which was received and discussed by Drs. E. Andrews, E. Ingals, N. S. Davis, of Chicago; D. Prince, of Jacksonville; and H. C. Gill, of Jerseyville, and referred to the Committee of Publication.

Dr. N. S. Davis, chairman of the Committee on Drugs and Medicines, read a brief report, which, after some remarks by Dr. J. H. Hollister, was referred to the Committee of Publication.

Dr. J. F. Todd, on behalf of the special committee on the death of Dr. G. W. Crossley, reported the following preamble and resolutions, which were adopted and ordered published:

WHEREAS, We recognize in the death of our professional brother, Dr. G. W. Crossley, a serious loss to our society and the medical profession, as a tribute of respect for his manly character,

Resolved, That while we bow in humble submission to the afflictive dispensation, we are comforted with the knowledge that he passed through the last great ordeal with the firmness and composure of a noble nature, sustained by exalted Christian sentiments.

Resolved, That we cherish his memory for the uniform and gentle courtesies he constantly bestowed upon us during life, and for his unselfish and intelligent devotion to his profession.

Resolved, That his unsullied reputation, and the purity of his life, be ever held in our estimation as an example worthy of our respect and emulation.

Resolved, That we extend our warmest sympathy to his family and friends in their great bereavement.

Resolved, That a copy of these resolutions be sent to the family of the deceased, and offered for publication in the Princeton papers.

Dr. T. F. Worrell, Chairman of the Committee on Nominations, reported, recommending the election of the following officers and committees for the coming year:

For *President*, Dr. E. P. Cook, of Mendota.

Vice-Presidents, Drs. James S. Whitmire, of Metamora, Geo. W. Jones, of Danville.

For *Treasurer*, Dr. J. H. Hollister, of Chicago.

Assistant Secretary, Dr. R. P. Wilson, of Lincoln.

Committee of Arrangements: Drs. R. P. Wilson, C. T. Wilbur, L. L. Leeds, P. L. Dieffenbacker, N. S. Reed.

Judicial Council: Drs. F. B. Haller, of Vandalia; E. Ingals, P. H. Burton, Rob't Boal, E. R. Willard, A. T. Darrah, T. D. Fitch, C. Goodbrake, N. S. Read.

Committee on Practical Medicine: Drs. G. W. Jones, of Danville; J. S. Crow, L. B. Moore.

Committee on Surgery: Drs. John E. Owens, of Chicago; M. M. Deming, H. Z. Gill.

Committee on Obstetrics: Drs. C. C. Hunt, of Dixon; D. S. Booth, W. M. Kaull.

Committee on Gynecology: Drs. T. D. Fitch, of Chicago; P. L. Dieffenbacker, N. Budge.

Committee on Ophthalmology and Otology: Drs. S. J. Jones, of Chicago: J. Perrin Johnson, H. B. Young.

Committee on Drugs and Medicines: Drs. J. F. Todd, C. B. Johnson, John Wright.

Committee on Necrology: Drs. T. F. Worrell, of Bloomington; G. W. Albin, E. Ingals.

Committee on Syphilis: Dr. W. M. Chambers, of Charleston.

Committee on Psychological Medicine: Dr. A. McFarland, of Jacksonville.

Committee on Physical Science: Dr. Sarah H. Stevenson.

Committee on Croup: Dr. H. Y. Gill.

Committee on Medical Education: Drs. E. Ingals, of Chicago; R. G. Bogue, of Chicago; D. Prince, of Jacksonville.

Dr. C. C. Hunt, of Dixon, Chairman of the Committee on Diseases of Children, read a report, which was supplemented by a paper on cholera infantum, by Dr. Lucinda H. Carr, a member of the same committee. The report and accompanying paper were referred to the Committee of Publication.

Dr. J. S. Jewell, a Special Committee on Neurology, made a verbal report on the nature and treatment of epilepsy. On motion of Dr. W. M. Chambers, he was requested to furnish a written copy of his address for publication in the Transactions. The remainder of the afternoon session was occupied with the hearing of a lengthy report on croup, by Dr. H. Y. Gill, of Jerseyville.

Evening Session.

The Society was called to order at 8 o'clock p. m., by the President. The consideration of the report on croup being in order, it was referred to the author with a request that he prepare an abstract for the Transactions of the Society, and that he be authorized to publish the report in full, in a separate volume as his own property.

Dr. C. W. Earle presented the report on Electro-Therapeutics by Dr. P. S. Hayes, of Chicago, and it was referred to the Committee on Publications. Short papers were also read by Dr. S. J. Jones, of Chicago, on Otology, and on Diseases of the Lachrymal Passages; by Dr. E. L. Holmes of Chicago, on Ophthalmology; by Dr. E. Andrews of Chicago on an Instrument for Detecting Fragments of Stone in the Bladder by Auscultation; by Dr. S. O. Richey of Chicago, on Reparation of Imperfect Tympani; by Dr. Mathews of Carlinville, on Diseases of the Throat and Nasal Passages; and by Dr. W. T. Montgomery of Chicago, on Two Cases of Disease of the Eye; all of which were briefly discussed and referred to the Committee of Publication.

At the request of Dr. D. W. Graham, of Chicago, a committee was appointed to assist the publishers of the *Medical Register and Directory* of the State, consisting of Drs. E. P. Cook, of Mendota, F. B. Huller, of Vandalia, and Wm. M. Chambers of Charleston.

A communication from the Centennial Medical Society was presented, relating to physicians' bills and to fees for services as expert witnesses in courts of justice. It was referred to a special committee of three, consisting of Drs. Eli Bowyer of Olney, T. F. Worrell of Bloomington, and H. Y. Gill of Jerseyville; to report at the next annual meeting of the society.

Lincoln, Logan county, was selected as the next place of meeting. A full list of delegates was appointed to the meeting of the American Medical Association for 1879. Visiting delegates were also appointed to the State Medical Societies of Michigan, Indiana, Missouri, Iowa, and Kentucky. At a late hour in the evening the Society adjourned *sine die.*

All the sessions were well attended, delegates and members being present from more than forty counties in the State. The business throughout was transacted in good order, and the meeting will be remembered as one of the most pleasant and profitable in the history of the Society.

Correspondence.

HONOLULU, HAWAIIAN ISLANDS, February 16, 1878.

To the Chicago Medical Journal and Examiner:

Among the interesting observations I have been enabled to make in these Islands, I have gathered such facts as were within my reach, of vital statistics, with some extraordinary results, which may prove of interest. My attention was first attracted to the subject, by listening to a septennial sermon preached by Rev. Mr. Freer, pastor of the Congregational church in Honolulu, on the last Sunday of 1877. He stated that during the seven years in which he had had the charge of that church, there had been born to its members eighty children, and that of those under his charge, five under fifteen years of age had died of disease and one from accident, and that during the same time fourteen adult members of the church had died.

These statistics were not sufficiently full to satisfy me, so I took an early opportunity to call upon the reverend gentleman and told him that his discourse had awakened an interest in me which it did not satisfy, and that he would lay me under great obligations if he could inform me what was the average number, during the seven years, of the children under fifteen years of age of whom but five had died of disease, and what was the average number of adult members of his church, of whom fourteen had died in the same period, and also how many of the eighty children born during that time were still living. He expressed great willingness to do this as soon as he could make the necessary investigation, and when practicable he obligingly informed me that the average number, for the seven years, of the children from whom the five were taken, was 300. That the average number of

the adult members of the church during the seven years, of whom the fourteen had died, was two hundred. That three of the five children who had died were of the eighty born during that time, leaving seventy-seven of them still living. He then added that no death had occurred during his time, among either class, of a person between the ages of six and eighteen years, so that the number of juveniles might have been largely increased by including all in that class under eighteen years of age. I remarked that I thought his statements most extraordinary, as I had seen it stated by high authority that one-half of the children born in the United States and in Europe die before they attain the age of five years. I asked him if he had ever applied figures to his facts so as to enable him to comprehend the results more clearly. He said he never had, for it had never occurred to him to do so. I then said, let us assume that the three hundred children represented 300 years of life each year, then during the seven years there were represented twenty-one hundred years of juvenile life, and if we divide this number by five, the number of deaths from disease, which has occured among them during that time, then there has less than one death occurred for four hundred years of juvenile life in his congregation, and by applying the same mode of computation to the adults of his church and the fatality among them during the same time, then there had occured one death for each one hundred years of adult life.

These results seemed very extraordinary he admitted, but that could not change the facts. At the first opportunity I laid these statements before Dr. McGrew, a physician of very extensive practice in Honolulu, who said that he did not doubt the truth of the statements, and that he did not think the results exceptional among the white population in the Islands. That the congregation of the Fort Street Church consisted of white people with very few exceptions, and that the few natives who worshiped in that church were of an exceptional class. That while the death of a white child in the Islands was of very rare occurrence the very reverse was the case among the native population. I asked the doctor how he explained the remarkable difference in the health of the children in the two races. He ascribed the difference to two principal causes: first the lack of constitutional

vigor or vitality in the native children, or inherited weakness or disease, and second a lack of that care which the white children receive, or in other words a lack of maternal affection. He stated that all children here are subject to those juvenile diseases which afflict children in other countries, such as the whooping-cough, measles, and the like, but that here they are of a much milder type than in any other country of which he had any knowledge, and when proper care was taken of the patients, they very rarely proved fatal. That indeed the death of a white child was of very rare occurrence, so that parents become at least partially divested of that deep solicitude or rather apprehension which is felt in other countries, that the new born infant may not live to muturity. I then inquired if he could discover that this imumnity seemed to have a tendency to beget in the white mothers, an inclination to neglect their children. He very promptly answered, not in the least; that the white mothers here are as devoted to their offspring as in any country in the world, only that they were more richly rewarded here for such affectionate care than elsewhere.

While upon the Islands I have neglected no opportunity to push my inquiries on this interesting subject, and found the results nowhere less favorable than the first statements given. In a conversation with Dr. Endor, formerly of St. Louis, now a practicing physician at Wailuku on the Island of Moni, I learned that by applying the same mode of computation first adopted to his facts, there were six hundred years of juvenile life to each death of a child among the white population within his practice, while his observations corresponded with those of Dr. McGrew as to the native population.

Rev. S. C. Damon, seamen's chaplin at Honolulu for these many years, whose hand seems to be in every good work, took me to visit the Punahou school and Oahu college which is situated just beyond the city. From a historical essay, read at a meeting of the alumni of this institution by Hon. A. F. Judd, in 1866, I learn that "the school opened on the 11th of July, 1841, with an attendance of thirty-four pupils solely the children of missionaries." "The greatest number (of pupils) in any one year was in 1858, when there were 77. In 1861 there were 76 and

in the year just closed (1865), 51. Total number of pupils during twenty-five years, 290, number of deaths so far as known, 20, leaving alumni alive 270." I was informed that a large percentage of these deaths occurred out of the Islands. At the time of my visit the school had been in operation over 36 years, and not a single death had ever occurred among the pupils. I could not obtain the exact average attendance but Dr. Damon expressed the opinion that the average would be about 70. While the data obtained lack precision in some important particulars, as for instance, the number of deaths of the alumni which occurred on the Islands, and the average number of pupils in the school, still they are valuable as tending to show the healthfulness of the Islands.

I have made some efforts to get a biological history of all the missionary families in these islands, but without success. This, complete, would form a most interesting chapter in Natural History, and such a work I believe not impracticable at this day. It would show a measure of generation and health, and periods of vitality, rarely to be paralleled in the history of the human family. I have a publication which advances a step in this direction. The missionary mothers in the islands formed themselves into a society which they called the "Maternal Association of the Sandwich Islands;" and in 1854 published a list of the members and children of the association called the *Blue Book*. In this the dates of the births of the children and the dates and the places of the deaths of members and children are given. In this book are given sixty-five missionary mothers and their children, of whom there were born 288. Thirty-two of these had died in the Islands of disease, one was drowned, and five had died at other places, one of whom was drowned. Of the 65 matrons, nine had died in the Islands, and two at other places. The first child was born in October, 1820; and the last in March, 1854. The value of these figures is better appreciated when we remember that the first missionaries arrived here in 1818, so that the period embraced in the statistics was 36 years. I regret that I have not the means of determining the numbers and dates of the arrivals of the reinforcements, but as the dates of the births of the children are given, together with the dates and places of the

deaths among them, we are enabled from these to make valuable computations. As we have seen, the 65 mothers bore 288 children, of whom 38 had died. Reckoning from the birth of each child up to 1854, the time when the statement was made, the aggregate years of life, if none had died, was 4100; computing then the time from each death up to 1854, the aggregate is found to be 463 years, which, if deducted from the 4100 years, leaves 3637 years of life. With these data given, each one may make his own computation, though I cannot help observing that more than 86 per cent. of those children born in the Islands, were living at the end of the period of 34 years after the first was born. The medical profession may be familiar with such results but I confess they surprised me.

I may state here that I learned from accoucheurs and other reliable sources that parturition is much easier and safer here than is usual in other countries, and that even a few months residence on the Islands seemed to prepare the system for such results.

While enjoying the hospitality of Father Alexander at Wailuku, and before I had seen the *Blue Book*, I expressed a desire to obtain a biological history of the missionary families of the Islands, when he remarked that there might be some difficulty in getting the history of all, but he could readily give the history of one. That he and his wife came from Kentucky to the Islands as missionaries in 1832. That they had had nine children, nineteen grandchildren and six sons and daughters-in-law, and that there had never been a death in the family, but all were now living on the Islands, "and," said he, as he straightened himself up, a just pride beaming from every lineament of his countenance, "not a black sheep among them all." The venerable heads of that remarkable family still manifest the elasticity and vigor of middle life, and labor with unabated zeal in the cause to which they at the beginning consecrated their lives. Truly they have been conspicuously blessed.

The departments of the government kindly furnished me with all the statistical information in their offices, but I find nothing which answers the inquiries for vital statistics which I am making. The rapid diminution of the native population, which has long

been known the world over, and has been often the subject of elaborate dissertations, had not led me to expect here the most favorable conditions for human life to be found in any country of which I have any knowledge. It is not only remarkable as a sanitarium for children, but for adults as well. The aged missionaries who have been laboring here for forty or fifty years or more, I find still strong and vigorous, working zealously in their missions, with a promise still of many years of usefulness, notwithstanding the hardships and privations through which they have passed.

Let me add that the last census shows, for the first time, an increase of births over deaths of the native population in Honolulu, but I fear the hopes which this statement inspired, that a turning point had been reached in the vitality of the native population of these Islands, will prove illusory, and that they are at last destined to fade away and disappear.

Yours, JOHN DEAN CATON.

BIDDING FOR PAUPER PRACTICE.

To the Editor of the Journal and Examiner:

I desire to offer, with your permission, a few comments on some of the points alluded to under the head of "Remarks," in the March number of the *Chicago Medical Journal and Examiner*, in reference to bidding for pauper practice by physicians. Among others, the following question is asked: "Is it proper to bid for pauper practice?" and answered as follows: "That is a matter of taste." I confess that your response to that question rather surprised me. I think the word, bad, should have been appended to the word taste, so that the answer would read: It is in bad taste for physicians to bid for pauper practice. Such a response would be, I think, in harmony with the code of ethics, which is the expressed public sentiment of the medical profession, and also in harmony with the decision of the Judicial Council on this very question.

In Vol. XX of the Transactions, we find the following lan-

guage: "Whereas, The contract system is contrary to medical ethics, *Resolved*, That all contract physicians, as well as those guilty of *bidding for practice* at less rates than those established by a majority of regular graduates of the same locality, be classed as irregular practitioners." This decision of the Judicial Council is the decision of the American Medical Association, and that decision, and the assertion that it is a mere matter of taste with physicians whether or not they bid for practice, do not harmonize well. In fact I think there is a direct conflict between them.

"Is it a violation of the code?" The Judicial Council, Vol. XX, page 41, also answers that question, and I will say nothing on that point.

"The physicians of every district shall establish a fee bill, and make it a point of honor to adhere to it." The first part of this quotation will be found, by reference to the code of ethics, to belong to and to be taken from some other document than the code of ethics. The code does not say that physicians shall establish a fee bill. There is no such declaration in the code of ethics. The language of the code on the subject, is that of a suggestion merely and nothing else. Such words as fee bill, cannot be found in the code, and as the remarks upon this subject were made from an erroneous stand point and outside of the question in dispute, I will say nothing further in this connection at this time, as the simple allusion to the question and the code is deemed all that is necessary to show the error.

I also differ with you in regard to who it is that make up the list of bidders for the pauper practice. My observation leads me to believe that the list is not made up from the ranks of the recent graduates, or from the ranks of those that are poor; for I notice that in localities where bidding for practice is tolerated by the profession, the old as often as the young physicians and the rich as often as the poor, are found on the list of bidders, which leads me think that those who bid for practice are not driven to it from necessity in order to keep their families or themselves from starvation, but I believe it is due, as a rule, to a disregard of that professional honor that should be found in every man that belongs to the profession. These men forget or disregard the fact that they are professional men as well as business men,

and that there is such a thing as a dishonorable business. I can see no difference between bidding for pauper practice and bidding for the practice of individuals or families. That which prompts the man to bid is the same in all cases.

In my opinion, all bidding for practice, by physicians against each other, whether it be for pauper practice or the practice of individuals or families, is alike an open violation of the spirit of the code of ethics, and contrary to the plain decision of the American Medical Association, as expressed by the Judicial Council. I am sorry that there are so few that are willing, or who feel called upon to speak out against competitive bidding for practice; and also sorry to see any defend the practice, or touch the subject so feebly as to lead the advocates of bidding to construe their remark into a defense and justification of those that enter into competitive bidding for practice.

If the code of ethics is wrong or faulty, let that document be changed, but let us not disregard or openly evade it while it is the acknowledged code of rules and principles to guide us, and is believed to be all that is necessary if observed, to promote harmony and good feeling among physicians, and also between the latter and the public. The question is not whether the code is the best that could be devised, but whether bidding for pauper practice is in harmony with the code as it now stands, or is a violation of it.

Respectfully yours, JOHN WRIGHT.

CLINTON, Ill., May 6, 1878.

REMARKS.—We are pleased to publish the above communication, because it affords us an opportunity to define more clearly the views we expressed on a previous occasion. The resolution of the Judicial Council in reference to bidding for practice, is so clear that there can be no doubt of its meaning, and we could have answered the question, "Is it a violation of the code?" simply by referring to this decision of the American Medical Association. But we wished to explain why this decision must be a dead letter. It tries to make the impossible, possible; to assume control over circumstances which are entirely beyond its reach. Suppose a workman with a large family needs a physi-

cian for an attack of sickness which requires daily medical attendance for five weeks. He is willing to pay a moderate fee, but unable to meet a bill of seventy dollars at the rate of two dollars a visit. Suppose the first physician the workman wishes to employ, strictly adheres to the customary fee, and declines attendance at a less rate, while another takes the case at one dollar per visit. Is this action of the second physician honorable or dishonorable? The case would assume a different phase if the first physician were employed at the regular rate, and the second tried to obtain the case by bidding below the former. This would be considered a mean and dishonorable act, even without a code of ethics.

We did not wish to defend any violation of the code, but we tried to show to our correspondent that an appeal to this code will not stop the practice of bidding he is so anxious to abolish. And we suggested to him a plan which, in our opinion promises better than the dictation of the Judicial Council. He should get his professional friends to unite their efforts with his in exposing the absurdity of a system which invites bids for medical services and lets the pauper practice to the lowest bidder in the same way as contracts for fuel are let. Corporations should establish a fixed salary for him who engages to attend paupers; then they will not have to select from inferior men, but from the best among all competitors.

In conclusion, we have to admit that our correspondent is right in what he says with reference to the words: "The physicians of every district should establish a fee-bill," etc. This quotation is taken from another document, and does not reproduce strictly the *letter* of the code—but it nevertheless expresses its *spirit*.—ED.

HOW TO MEASURE THE RELATIVE LENGTH OF THE LOWER LIMBS.

Messrs. Editors:

In the last issue of this *Journal*, Dr. Bartlett described an apparatus for measuring the relative length of the lower extremities, which reminds me of another method, for the same purpose, that recommends itself by its simplicity and accuracy.

The anterior superior spinous process of the ilium is carefully marked, on both sides with ink or a colored pencil, while the patient keeps a horizontal position in bed. He then, is directed to rise to his feet, and to assume as straight and natural a position as possible. Especially must both feet be brought into natural abduction, the heels touching, if possible, one the other. The practitioner who is standing at a distance of from two to three yards before the patient, will at once recognize the shorter leg from the lower position of the corresponding spinous process. An assistant should then put pieces of wood, one-eighth inch thick, under the foot of the shortened leg till the anterior superior spinous processes are on a level. The height of the wood block necessary to raise the lowered spinous process to the horizontal line, designates the accurate amount of shortening.

If the practitioner should not trust his eyes in judging of the symmetry of the pelvis, he can establish a very simple level by placing between the patient and himself a table whose edge will guide him in appreciating the horizontal relation of the marked processes, or he may resort to the instruments that stone-cutters use in similar cases.

I hardly need add that the measure of the height of the pile of boards on which the shortened leg rests, should be taken while the patient is standing on it.

I am satisfied that this simple method of measuring the shortening of the limbs, enables us to demonstrate very small differences, such as require no correction at all. Furthermore, if the measure is taken while the patient is erect, the full weight of his body forces the muscles and joints of the lower extremities to assume their natural position. We should thus be able to avoid the many errors to which Dr. Bartlett has called attention, as resulting from differences in adduction, abduction and flexion.

Altogether I regard it as a matter of some importance that the profession should agree upon a uniform method of measuring the shortening of the lower limbs. In cases of fracture of the femur, for instance, the question remains still unsettled, whether preference should be given to the use of Hodge's splint, the double inclined plane, the plaster-of-Paris bandage, or the weight and pulley. Each of these apparatuses has its advocate, yet a final

decision as to the *real* results obtained by each one, may only be expected, when, after the union of the fractured bone the relative length of both limbs is ascertained *in every case in the same manner*. I trust that the method described above, if fairly tested, will be found worthy of general adoption.

Respectfully,

HENRY BANGA, M. D.

CHICAGO, May 20, 1878.

TREATMENT OF HERNIA.—The writer publishes four new cases of hernia, treated by his method of injection of 70 per cent. alcohol. After complete reduction of the hernia, he injects into the subcutaneous tissue around the hernial canal, the contents of one or two hypodermic syringes, and repeats this in the course of a few days. The canal is thus gradually surrounded by a ring of induration. Suppuration is a *desirable* result of the injection. During the treatment the patient can walk about with a truss. Of four cases of large hernia, the canal was obliterated in two and considerably narrowed in the other cases.—C. Schwalbe (*Deutche Med. Wochenschr;* 1877. No. 45).

ANOTHER ECTROTIC IN SMALL-POX.—The powder consisting of four parts sulphur and precipitate, employed by Semaria with such success in eczema and acne, will, he now claims, prevent the unsightly cicatrization after variola. The suppurating pustules are to be first penciled with glycerine, and the powder afterward thickly strewed over them. The crust thus formed is cast off without leaving behind any cicatrices.—*Gazette Med. Ital. Lomb.*

Reviews and Book Notices.

THE ADVANTAGES AND ACCIDENTS OF ARTIFICIAL ANÆSTHESIA. Being a manual of anæsthetic agents, and their modes of administration, considering their relative risk, tests of purity, treatment of asphyxia, etc. By Laurence Turnbull, M. D., Ph. G., etc. Philadelphia: Lindsay & Blakiston, 1878. pp. 210.

Whenever the question of anæsthesia and the relative safety of the different anæsthetics is ventilated by a body of medical men, the desultory manner of the discussion is its most noteworthy feature. The earnestness with which the subject is discussed, and the great number participating actively in the debate, show the profound interest medical men take in this all-important question. While, on the other hand, the opinions of the different speakers, generally founded solely upon their limited personal experience, betray the fact that physicians are often ignorant of a great many things which have been published in relation to this subject of anæsthesia.

We do not make these remarks for the purpose of casting any reproach upon our professional friends; we simply wish to point to the fact that valuable information which is annually published in hundreds of medical periodicals in the different tongues of the civilized world, is practically inaccessible to the busy practitioner. A book, therefore, which presents this information in the condensed form of a small compendium, must be welcome to every physician, for it meets a great real want. A good compilation of this kind represents a vast amount of work, and also reflects the sound judgment of the author in critically sifting the material.

Such is the character of the little book before us. In a concise form, the properties and actions of the agents now used as

anæsthetics are exhibited; the best methods of their administration are well described, and directions added for prompt action in cases of asphyxia and other accidents. The question as to the comparative safety of the different anæsthetics (especially ether and coloroform), is thoroughly ventilated and impartially decided in favor of sulphuric ether.

If suggestions are admissible, we would remark that among the secondary effects of ether, the occasional occurrence of neuralgic affections should have been mentioned. The fact that neuralgia sometimes follows the inhalation of ether, seldom though it may happen, is of sufficient practical importance to deserve a place in a complete treatise on anæsthetics.

This excellent little work cannot be too warmly recommended to every busy practitioner who wishes to obtain much information by little reading. F. C. H.

MODERN ORGANIC CHEMISTRY. By C. Gilbert Wheeler, Prof. of Chemistry in the University of Chicago. Chicago: Jansen, McClurg & Co.

The need of a good text book, devoted entirely to organic chemistry, has long been felt, both by teachers and students. The subject is one of such great extent, and of such practical importance, from its fruitful relations to the arts and to medicine, that the brief chapters usually devoted to it in works on general chemistry, are thoroughly insufficient for the needs of the conscientious student, while at the same time the elaborate volumes of Miller, Wöhler and others are too extended for general use. Prof. Wheeler's new work admirably fills the void, placing in our hands a clear outline of modern organic chemistry, at once compendious and yet giving an ample exposition of all important parts of the subject.

Considerable attention has been given to the medical relations of the different subjects treated of, giving the work an additional value to the student and practitioner of medicine. The chapter on the alkaloids is particularly full and will well repay careful study; for, as a general rule, far too little is known by medical men of the chemical relations of these highly important remedial and toxic agents. Claude Bernard's valuable table of the rela-

tive toxic, convulsive and soporific value of the different alkaloids in opium is reproduced, and is well worthy of careful attention and remembrance. The alcohols, with their numerous derivatives, many of which are put to such extended use in medicine, receive careful treatment, while the organic acids and bases are discussed clearly and at sufficient length.

We are sorry to see an occasional rather loose use of chemical terms, such as soda and potassa, where evidently sodic and potassic hydrates are referred to—of the ambiguous term hyponitric acid, etc. The subject of chemical nomenclature is in a state of such confusion, that unless one is careful to use exclusively either the old or the new system, the greatest perplexity may arise, especially in the minds of the beginner. While in conversation, or even in the lecture room, an occasional employment of the loose, old-fashioned names of chemicals may be quite admissible, yet in a text-book designed for accurate scientific training, their use can scarcely be too severely reprehended.

Typographically, the work reflects the very greatest credit upon its western publisher and printer. The impression is beautifully clear and distinct, the paper thick and softly tinted, the arrangement of the various tables admirable, while the almost unexceptionable accuracy with which the complex formulæ of organic substances is given, challenges our highest admiration.

W. S. H.

FORENSIC MEDICINE AND TOXICOLOGY. By W. Bathurst Woodman, M.D., F. R. C. P., and Charles Meymott Tidy, M.B., F. C. S., Philadelphia: Lindsay & Blackiston. 8vo.

We have examined this work with interest and find little in it to blame, while there is much that is worthy of praise. It forms a volume of 1,054 pages, of which about one half is devoted to Toxicology.

The first chapter gives the chief practical issues which arise for decision by medical witnesses, and then tells what principles should guide them in giving evidence in the courts.

Chapter second—comprising only four pages and a half—is an excellent one upon the examination of bodies found dead, and gives full directions how to make the proper *post mortem*. The

third chapter discusses very thoroughly "Signs of Death," and mentions that the Paris "Academy of Sciences," in 1873, offered a principal prize of 20,000 frs. "for the discovery of a simple and popular mode of recognizing the signs of real death in a certain and indubitable manner, a method which may be put in practice by poor uneducated villagers." Sixteen very practical pages are given to this subject.

Any physician reading these three chapters will more clearly apprehend the scope of this branch of medical science, and in the new interest and appreciation awakened in him will find ample recompense for his trouble.

Chapters fourth to eighteenth, inclusive, are devoted to Toxicology, and after careful examination we feel justified in saying that nothing has yet been written which gives so much information upon the subject and that in so clear and condensed a manner. In examining a poison the method of our author is to give:

1. The description of the substance.
2. Its different preparations.
3. Results of experiments on animals.
4. Dose, and symptoms of poisoning by it.
5. Treatment.
6. *Post mortem* appearances.
7. Tests.
8. Toxicological analysis.
9. Quantitative estimation.
10. A Table of cases of poisoning by the substance indicated.

This table is very valuable and gives in each case:

(a.) The source from which it is quoted, the particular form of the poison taken and the amount.

(b.) Symptoms.

(c.) Result.

(d.) *Post mortem* (if any).

One hundred and twenty-one cases of opium poisoning are thus given, eighty-nine of strychnia, and even under the head of poisoning by mushrooms we have fourteen cases. Other rare poisons are treated in the same careful manner, making the work, in this particular, highly satisfactory. It is gratifying to us, as

Americans, to find such liberal quotations from Wormley and other writers upon Toxicology in our own land.

Chapter nineteenth treats of the examination of hairs and stains. It teaches very effectively the employment of the microscope, spectroscope and chemistry for this purpose.

Chapter twentieth is upon life insurance, and contains a table of cases of disputed policies, with the medico-legal questions involved, and a list of some causes of sudden death.

Chapter twenty-first gives thirty pages upon "Personal Identity," and discusses, in a masterly manner, this subject—often a most troublesome one to the medical jurist.

The latter part of the book seems to us less carefully prepared than the preceding portions. There is valuable matter in each chapter, but it is neither well digested nor well arranged. For example: the subject of "Sexual Relations" is treated in chapters twenty second and twenty-fifth, and quite imperfectly, while chapter twenty-fourth, upon "Malapraxis," is very strangely thrown in between the twentieth, upon "Pregnancy," and the twenty-sixth, upon "Premature Labor," which would naturally be expected to come together and to be immediately followed by those upon the "Sexual Relations"; and the subject of "Malapraxis" should follow that of "Wounds and Injuries."

The comparatively short space of one chapter is allotted to "Mental Unsoundness," and, although much valuable information is there given in a very condensed form, it is necessarily far from sufficient to satisfy physicians upon this most perplexing of all medico-legal subjects.

The same complaint may be made in regard to "Wounds and Injuries," to which but one chapter, the last, is devoted, whereas the subject is one of such undoubted and generally conceded importance, that a work of so high a character as that in hand should not have passed it by without an extended exposition.

As a whole, despite the defects to which we have considered it the duty of impartial criticism to call attention, we pronounce the volume before us an important addition to our medical literature, and cordially recommend it to the careful perusal of our readers.

Clear type, broad margins and tasteful binding give the book

an attractive appearance and bring it fully up to that high standard of typographical excellence established by Lindsay & Blackiston. H. P. M.

TRANSACTIONS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION, with the President's Address, at the First Meeting held at Niagara, Sept. 4, 5 and 6, 1877. N. Y.: G. P. Putnam's Sons.

This little pamphlet of 42 pages illustrates a new departure from the traditional procedure of scientific associations. Instead of publishing a large and expensive volume, which would have been read by few except those especially interested in such literature, the American Dermatological Association decided to permit its members to furnish their papers for publication to the various Medical Journals throughout the country. The result has been that these journals have been enriched during the year past with many valuable and important papers (two of them have appeared in the CHICAGO MEDICAL JOURNAL AND EXAMINER); and these papers have also been placed in the hands of many readers who would doubtless otherwise have never had the opportunity of perusing them.

As a consequence, the real transactions of the Association are contained in the present pamphlet, including the President's address, which furnishes an admirable sketch of the progress of dermatological studies in America. This last is enriched by a tabulated list of contributions to dermatological literature in this country, arranged under the names of authors; the list including the names of White and Wigglesworth of Boston; Duhring and Van Harlingen, of Philadelphia; Keyes, Otis, Bulkley, Piffard, Taylor and Bumstead of New York, and others whose writings are familiar to the profession in the United States.

We are inclined to believe that this method of utilizing the work done by societies devoted to the advancement of any special department of medical science, will meet with the approval of the profession at large. J. N. H.

BOOKS AND PAMPHLETS RECEIVED.

Sixth Annual Report of the Secretary of State of the State of Michigan; Relating to the Registry and Return of Births, Marriages and Deaths for the Year 1872.

Eulogy upon Lunsford P. Yandell, M. D. By Theodore S. Bell, M. D. Louisville, Ky. Reprint from *American Practitioner*, April, 1878.

Old Age, Its Diseases and Its Hygiene. By Lunsford P. Yandell, M. D., Louisville, Ky. Reprint from *American Practitioner*, February, 1878.

Typical Case of Addison's Disease, with Remarks. By George Ross, A. M., M. D. Professor Clinical Medicine, McGill University; Attending Physician Montreal General Hospital. Reported by Mr. H. N. Vineberg.

The Paralysis of Potts' Disease; Being a Clinical Study of Fifty-eight Cases. By V. P. Gibney, A. M., M. D., Assistant Surgeon to the Hospital for the Ruptured and Crippled. New York. Reprint from *Journal of Nervous and Medical Diseases*, 1878.

Transactions of the South Carolina Medical Association; 27th Annual Session, held in Charleston, S. C., April 10th and 11th, 1877.

Prescription Writing, Designed for the Use of Medical Students Who Have Never Studied Latin. By Frederic Henry Gerrish, M. D., Professor of Materia Medica and Therapeutics in the Medical School of Maine, etc Second edition. Pub. Portland, Me.: Loring, Short & Harmon. Philadelphia: J. B. Lippencott & Co.

THE *London Lancet* for May, 1878, contains an interesting communication from Dr. M. O. Jones, of Chicago, on the treatment of the vomiting of pregnancy, to which is added a note of a case by Dr. Marion Sims, who considers Dr. Jones' method of treatment important and worthy of more extended trial. It consists in pencilling the os uteri with the solid nitrate of silver. Usually but one application has been found to be necessary, and the gratifying relief which followed was obtained within twenty-four hours after the application.

Dr. Jones is to be congratulated on having his procedure introduced to the profession with such high endorsement.

Summary.

Collaborators: DR. H. GRADLE, DR. R. PARK, DR. L. W. CASE, DR. R. TILLEY.

SYPHILIS.

ABSTRACT OF A SERIES OF FOUR LECTURES ON HEREDITARY SYPHILIS DELIVERED AT THE HOSPICE DES ENFANTS ASSISTÉS. By M. Parrot. (*Le Progrès Médical*, Nos. 44 and 47, 1877, and Nos. 1 and 4, 1878.)—Parrot introduces his subject with a brief sketch of the history of the literature of hereditary syphilis; commencing with Gaspard Torella (1498) and Matthiole (1536), who concluded that the disease was induced by the milk of infected nurses, and proceeds to the consideration of abortion due to syphilis.

Menstrual irregularities and suppressions in the subjects of syphilis, are thought by Fournier to be due to the anæmia and cachexia induced by the disease, precisely as other maladies operate to produce the same effect. In this result, however, Parrot believes the specific disorders of the utero-ovarian apparatus play an important part.

Abortion occurs in a little more than one-third of all pregnant women who are syphilitic. The epoch of the abortion depends upon the age of the syphilis in the woman, and, when recent, upon the period of pregnancy when infection occurred. The more complete the term of pregnancy when contamination happens, the fewer are the chances of abortion: at the fifth month, Parrot believes infection rarely interferes with the gestation.

According to Kassowitz, untreated syphilis of the mother for the first three years of the disease, always leads either to abortion or the birth of children which survive but a brief time. Bärensprung is of opinion that it is especially at the 3d, 4th and 5th months that these accidents ensue. Weber, in 1875, had observed

109 pregnant syphilitic women, one-fifth of whom aborted, generally between the 7th and 8th month.

Parrot, after citing various authorities, expresses no opinion as to the relative share of the parents in this premature expulsion of the fœtus, but agrees with all observers in the conclusion that the condition of the product of conception itself is the immediate cause. Babington, Trousseau and Bärensprung believed that the death of the fœtus was the exciting cause; Kassowitz concludes that this is not essential, the greater or less disturbance of its nutrition being sufficient. The lecturer laid no stress upon the anatomico-pathological conditions of the placenta, inasmuch as these are not well understood.

In the matter of treatment, Weber found that 35 women treated by mercurial injection had a normal conclusion of gestation. Of those subjected to mixed treatment (with preponderent employment of potassic iodide) 20 per cent. aborted; of those who simultaneously ingested mercuric bichloride and potassic iodide, 15 per cent., while of those who took potassic iodide only, 36 per cent. aborted.

Exceptionally, the newly-born syphilitic infant bears the evidences of its disease upon its external surface; in such cases death usually supervenes rapidly. As a rule, the syphilitic child at birth appears to be healthy. It has a moderate degree of embonpoint, exhibits a rosy or slightly marbled tint of the skin, its flesh is firm, its cry vigorous, it takes the nipple well, its stools are normal and its urine clear and abundant. This lasts a fortnight, three weeks, or a month, and then the scene changes. A yellowish discharge from the nostrils accumulates around and obstructs their orifice. Suction of the nipple becomes difficult, painful, and accompanied by cries and agitation. The infant commences to waste. Soon the nates, the upper and posterior surfaces of the thighs, and the periphery of the mouth, the nostrils and the chin, become covered with an eruption. At the commissures of the lips, fissures and ulcerated papules form.

The eruption becomes rapidly more abundant and salient. Macules are replaced by red or rosy patches, sometimes of a violet tint, which has been compared to the color of the lean part of a ham, with depressed and greyish center, sometimes scaly or ul-

cerated, according to its location. Here and there, especially upon the face, brown or reddish crusts appear. The appetite is sensibly diminished; there are frequent stools and vomiting, the dejections of a greenish color and mixed with mucus. The flesh becomes less firm, the integument loses its tint of health, and has a wrinkled look. When the emaciation has somewhat advanced, by examining with the hand the tissues about the inferior extremity of the arm and the internal face of the leg, it can be determined that the humerus is thickened and the tibia is more voluminous than natural, as though something had been added to the thickness of the bone.

The phenomena which succeed are different, according as the disease assumes a chronic or rapidly fatal phase. In the former case, the eruption both extends to new portions of the integument and becomes more prominent where it had heretofore existed. The buttocks, scrotum, labia and thighs become covered with elevated and indurated patches, resulting in deep and extensive ulcers. From the eyes, the nose, the ears, and the facial lesions, a puriform matter escapes, which concretes into thick irregular crusts, producing a most repulsive aspect of the visage, whose features are also disguised by the swelling of the skin. The eyes become closed, the eyelids glued together, the nostrils obstructed and the lips, which are seamed with deep fissures, bleed on the least contact.

Just before death, a notable change occurs. All the lesions subside and lose color, the redness disappears and the discharge ceases. Only the crusts persist, and even these seem to have lost in volume. At this moment, one who considers the skin alone might conclude that there was an amelioration of the symptoms; in reality, death is imminent.

In the acute form, the phenomena last described are speedily noted. There is no time for the slow evolution of syphilis; some complication or intercurrent affection proves fatal, occasionally even before the identity of the specific disease has been established.

Death, however, is not a necessary result. Under favorable conditions of hygiene and treatment, recovery takes place; macules disappearing first, papules becoming depressed and

fading, ulcers healing, often with a permanent scar as the result. The processes of nutrition, temporarily disturbed, resume a normal activity, the flesh becomes firm and the skin assumes a healthy tint. It is the digestive tube which works this marvel, and it is to it, therefore, that the physician should chiefly direct his attention.

Parrot, reviewing the symptoms detailed above, recurs to the subject of the bullous syphilide, commonly called *pemphigus syphiliticus*, as the most precocious of these symptoms. occurring in a large number of cases at birth, and often dating back to the sixth or seventh month of intra-uterine life.

Seated generally upon the palms of the hands and the soles of the feet, it is also found upon adjacent parts, as the dorsal face of the fingers and toes, and the inferior surface of the leg (much more rarely upon distant organs such as the ear). In these latter cases, the eruption is usually tardy of occurence, more discrete and less developed.

In the first few days after birth, the extremities are, as a rule, more deeply congested and colored than other parts of the body. Their hue is of a deep violet shade in the new-born affected with bullous syphilides, and venous red patches may be seen upon them, surrounded by a bright red areola, whose epidermis is speedily raised by the accumulation of liquid beneath, which transforms the lesions into bullæ of variable size. Their diameter may equal from two or three mm. to one and a half ctm. Their development may be rapid; and coalescence occur, forming a compound bulla, whose contour is formed by a series of segments of circles. Some resemble the pustules of variola, others contain a greenish fluid. The smaller ones are made tense by their contents: the larger are often partially filled merely, the roof of the bulla being partially collapsed upon the fluid contents beneath.

Two important points are to be noted: 1st, The bullæ most distant from the seat of election have always less distinctive features than others; they are fewer, smaller, and have less abundant yellow contents. Aborted lesions are to be seen near these, the epidermis being scarcely raised, and without subjacent fluid. 2d. The later the eruption after birth, the less distinctly marked is its type. Hence bullous syphilides, late of occurrence, and

seated elsewhere than upon the site of election, may give rise to doubts in diagnosis.

Once fully developed, a portion of the liquid contents may be absorbed and the remainder concrete into a brownish mass; or the cuticle may burst or become completely detached leaving an ulcer of various extent upon the corium beneath. These ulcers have a red and sanious floor, are not as a rule deep, but are sometimes crateriform and involve all layers of the skin. Generally at this time the subjects of the disease perish.

In the exceptional cases where a cure has been effected (noted by Depaul, Galligo, Stamm, Hertl, Ollivier and Ranvier), the general turgescence subsides, and the crusts fall, exposing an imperfectly formed epidermis, which is renewed after successive desquamations until it acquires sufficient firmness to persist.

Of all the cutaneous syphilides, the bullous appear at the most fixed time, and are also the most precocious. They have however been noted as late as the 7th and the 18th day, and even at the tenth week.

Bullous syphilides appear simultaneously, rarely by successive crops. Intervals of 15 and 19 days have yet been observed, during which time the lesions first to appear have been completely relieved.

There may be co-existence of other syphilides with bullæ, especially when the latter are tardy of appearance. The lesions are not, therefore, as has been taught, uniformly isolated. The minute, very red papules which are rapidly transformed into pustules, and termed "syphilitic ecthyma," are not really such, but constitute one variety of bullous syphilides. "Syphilitic rupia" belongs to the same category. There is really but one disease which requires to be differentiated from that under consideration. It is the pemphigus of the newly-born.

But pemphigus never commences on the palms of the hands and the soles of the feet. If it occur in these situations, it has always first appeared on the neck, axillæ, and upper surface of the thorax, its site of election. In the syphilitic form, the maculæ, which precede the bullæ, the skin from which they are developed, and their surrounding areolæ, are all of a violaceous tint; in non-specific pemphigus the color is a rosy red. The

latter, too, are larger and contain at the outset a transparent amber-colored serum, which never becomes purulent, made up eventually of water and protein granules with few epidermic cells and leucocytes. Afterward the fluid is either absorbed or results in a thin impetiginous crust, whose fall exposes a delicate layer of epidermis. In syphilis, the bullæ contain pus, and solid elements predominate in the form of fibrinous granules, pus globules, and whitish flocculi, which are the débris of the mucous layer of the epidermis. Then follows a brownish crust covering an ulcer of the corium. Lastly, syphilis may exist at the moment of birth; pemphigus rarely appears before the fifteenth day, and is frequently observed during the course of the first year.

Is this latter eruption really syphilitic? Parrot thinks it is so unquestionably. The earlier observers so considered it, and also many of those succeeding them. Some have believed it to be due simply to the cachexia engendered by the specific disease. But cachectic pemphigus is quite different in its date of appearance, seat, external phenomena, and histological lesions. As for the opinion that the disease is sometimes produced by syphilis and sometimes by another cause, Parrot dismisses it with a single sentence, and does not believe that when bullæ are the sole manifestation of syphilis, the diagnosis should be doubtful. Observation teaches this truth. In the large number of infants examined by the author, when pemphigus existed upon other regions of the body than the palms of the hands and the soles of the feet, no visceral nor osseous lesions were in any case discovered.

Exceptionally, a bullous eruption occurs in *acquired* syphilis, the "pemphigoid pustular syphilide," of Alibert. Ricord has seen this once on the soles of the feet; Bassereau once also on the palms of the hands. Zeissl in 20 years never saw it. Morgan reports one case, in a woman 26 years of age.

From this fact it will be seen that the bullous syphilide is peculiar to the newly born, and is one of the most characteristic evidences of hereditary disease.

GUMMATOUS TUMOR OF THE OCULAR CONJUNCTIVA. Dr. A. M. Berger. (*Acrztl. Intelligenzsbl.* No. 17, 1878).—On Nov.

8, 1877, Mrs. M. H., aged 30, married for two years, consulted the Doctor on account of mydriasis of the left eye, which had occurred quite suddenly. The eye was not irritated; vision and fundus normal, only the pupil was completely dilated and immovable. At the same time a few copper-colored maculæ were noticed on the forehead, and although the patient denied any possibility of infection the suspicious maculæ suggested a constitutional treatment. Under the free use of iodide of potassium, and the occasional application of eserine, the mydriasis disappeared after three weeks.

But in January last, the lady returned with a squamous syphilide over the forehead, temples and eyelids; adenopathy, and a violent acute iritis. The peculiar feature of the case was a grayish white nodule at the inner margin of the cornea; it was 3 mm. broad and 2 mm. high in its center, gradually sloping off toward the cornea and sclerotic. The conjunctiva passed over its smooth surface. After one week of mercurial treatment this subconjunctival nodule began to get smaller, while, with an aggravation of the iritis, two small brownish condylomata appeared on the inflamed iris. On February 15, however, condylomata, gumma, and cutaneous syphilide had disappeared. The situation of the gumma was indicated by a yellowish discoloration of the sclerotic.

Dermatology.

Treatment of Bromide of Potassium Eruption. (*Br. Med. Jour.*, March 1878.)—Dr. Russell had a severe case of this trouble in the person of a young woman whom he was treating for epilepsy. The eruption was first papular, then pustular. By combining five minims of Fowler's solution with each dose of the bromide he completely overcame the annoyance and was able to continue the administration of the latter as long as he desired.

Treatment of Acne Rosacea. (Archives of Dermatology.)—Narmann recommends a solution of one pt. carbolic acid in three or four parts alcohol, as an application to the diffusely reddened patches. It is not, however, of much service, when there is infiltration or vascular ectasis.

Surgery.

Intractable Hernia Reduced by Esmarch's Bandage. *L' Année Médicale* reports two interesting cases of Hernia successfully reduced by Esmarch's bandage. Place, Hôtel Dieu, Caen, France; Surgeon, M. Dennis Dumont; Assistant Surgeon and Reporter, M. Chapelle.

Case 1.—A. J. B., Journalist, sixty years old. Subject to hernia for ten years. It came down rarely and was returned without difficulty. On the occasion in question it came down the day before he appeared at the hospital, and refused to yield either to the efforts of the patient or the physician.

Examination revealed a left inguinal scrotal hernia, pyriform and about the size of the fist. Color of skin not changed. General state of patient not sufficiently serious to induce the assistant to send for the surgeon—no fever, no vomiting.

A warm bath was administered, extending over an hour, and taxis tried; no result. Injections were employed and compresses of ice water kept over the tumor.

Next day vomiting occurred; general state not alarming. M. Dennis Dumont administered chloroform to complete muscular relaxation. Taxis resorted to but in vain. Esmarch's bandage was then applied as follows: The end was placed over the pubis and held there by the patient; the bandage was then brought down into the left groin under the scrotum, and by three or four circular turns the scrotum was enveloped as far as the penis. Then the penis being enclosed, the bandaging, by means of reverses, was continued pretty tightly as high up as the pubis. The bandage was then secured by means of pins and then carried round the loins.

At the end of an hour the patient had heard the rumbling noise characteristic of reduction. An evacuation of the bowels occurred almost immediately afterwards, and the hernia did not reappear.

Case 2.—A widow, seamstress, forty-two years, constitution pretty robust; entered same hospital Dec. 31, 1877. Had occasionally been troubled with a tumor in the groin for a long time.

It appeared on the least exertion, and disappeared as readily when she assumed the horizontal position. On this occasion it came without the least exertion and could not be forced back as before. She exhibited a left femoral hernia about the size of a hen's egg, hard, and below Poupart's ligament. The abdomen was tympanitic, not painful on pressure, but vomiting had occurred.

The surgeon tried taxis without chloroform, and with chloroform pushed to complete muscular relaxation; no success. The state of patient was not alarming. The elastic bandage was again used thus: A graduated compress was placed over the tumor and a spica bandage applied pretty tight. At the end of two hours the hernia was completely reduced.

This method of the reduction of hernia does not appear to have been adopted much in this country, but in a conversation with Dr. Andrews, he stated that the late Dr. Sherman, of this city, spoke to him of its having been accomplished at least six years ago.

TREATMENT OF TRANSVERSE FRACTURE OF THE PATELLA.—At a late meeting of the London Clinical Society, the President, Mr. Callender, exhibited a case of the above treated as follows: A sheet of plaster, fitting the thigh, was made to extend to the upper margin of the patella. Through loops on either side of that bone, extension was made to a canvas slipper, so that the upper fragment was drawn down to the lower. This apparatus was left on after the patient was able to walk about.

[While the above extension was made by pulleys, according to the report, it is probable that some elastic material would answer the purpose equally well, if not better, and at the same time be more simple in design and construction.—REP.]

CONCERNING EPITHELIOMA OF THE SKIN.—Busch. (*Arch. F. Klin. Chir.*—B. considers that the first hypertrophic layers of epidermis caused by any irritant, prevent the newly formed epithelial cells from pushing up towards the surface as they should do, and cause their accumulation and development downward. Reasoning thus, he has used a very weak solution of soda to

soften the layers whenever he sees signs of incipient epithelioma. The solution is made 1 pt. soda in from 40 to 100 pts. water. After the growth is removed, he uses a still weaker solution as a prophylactic. Busch has succeeded in thus removing growths of this nature, even when an ulcer had formed. He also recommends the same measure for the removal of the epithelial collections often found about the nipples of old women, and for preventing their recurrence.

INTRAVENOUS INJECTION OF MILK — A SUBSTITUTE FOR TRANSFUSION. — (*N. Y. Med. Jour.*, *May*, 1878.) — Dr. T. G. Thomas, in a paper with the above title, puts forward very cogent reasons why hope should not be abandoned in the class of cases where transfusion of blood, although indicated, is impracticable, until the simple operative procedure of injecting milk into a vein has been tried. He gives first a short *résumé* of the history of transfusion, and then shows that milk is not, after all, so very different from blood, or from the chyle which is poured into the blood. He finds that Dr. Hodder, of Toronto, first resorted to the injection of milk in 1850, in three moribund cases of Asiatic cholera, and that two of them recovered. A year ago Dr. Howe, of New York, pursued the same course in a case of inanition accompanying tubercular disease, but without more than ephemeral success.

Without detailing Dr. T.'s cases, we will only say that he has employed the method in three cases. One made an excellent recovery, the second died of exhaustion, attending suppuration, and the third of prolonged interstitial hæmorrhage. The life of the first was certainly saved, while a longer lease of life was given to the other two than they would have otherwise enjoyed.

Dr. T. alluded to the experiments of Dr. Howe upon dogs, and accounted for his uniform failures on the ground that he had used milk which had stood for several hours; whereas it was most essential that the milk should be absolutely *fresh*. The author sums up with these propositions:

1. The injection of milk is feasible and safe.
2. Only milk removed from a healthy cow, and within a few

minutes of its use, should be used. Decomposed milk is as dangerous as decomposed blood.

3. A glass furnished with a rubber tube attached, ending in a very small canula, the whole scrupulously clean, is in every respect preferable to the more elaborate apparatus used in transfusion.

4. The whole proceeding is vastly more simple than transfusion, and offers positively no difficulties.

5. The injection of milk, like that of blood, is commonly followed by a chill, and rapid rise of temperature; these symptoms, however, quickly subside, and improvement follows.

6. The measure is indicated not merely in cases prostrated by hæmorrhage, but in disorders which greatly depreciate the blood, like cholera, pernicious anæmia, typhoid fever, and as a substitute for diseased blood.

7. Not more than eight ounces of milk should be injected at any one operation; this, however may be repeated as occasion requires.

Any accessible vein may be selected; perhaps the cephalic is preferable.

THERAPEUTICS.

SODIC SALICYLATE IN DIABETES MELLITUS. Ryba and Plumert. (*Präger Med. Woch*).—These authors have reached the following conclusions: 1. In daily amounts of two drachms, it determines a decided diminution in amount of sugar excreted. 2. The best results are to be derived from more recent cases. 3. The above diminution may be made more striking by restricting the hydrocarbonaceous elements of the diet. 4. The polyuria usually yields consentaneously with the glycosuria. Other diabetic symptoms (e. g. bodily weight) are favorably influenced. In two cases the symptoms were at first aggravated, but soon yielded, under this treatment.—*Dublin Jour. Med. Sci.*

CERII OXALAS IN CHRONIC COUGH. (*Practitioner*, April, 1878.) —Dr. Thomas Clark considers this drug to be purely sedative, and therefore a great desideratum in treatment of lung diseases, inasmuch as it does not disturb the digestive tract—the only unpleasant subjective feature of its use being occasional dryness of the mouth. In gr. v. doses he has found that it will relieve many harrassing coughs, irrespective of the pathological conditions which cause them. Dyspnœa is usually relieved at the same time. He claims that relief for a period of twenty-four hours often follows a single dose taken before rising in the morning.

GLICERINUM IN TREATMENT OF INTERNAL HÆMORRHOIDS. Dr. G. P. Powell, (*The Practitioner*, April, 1878).—Dr. P. commends very highly the administration of glycerine in this most annoying complaint. He gives ʒj ad jss *ter in die*, together with a little citric acid and anodyne p. r. n.; or it may be flavored with tinct. cardamom. comp.

He leaves the explanation of its beneficial effect to others, while he is convinced that in such cases—especially the hæmorrhoids of drunkards—it is a most efficient therapeutic agent.

PRACTICAL MEDICINE.

METALLOTHERAPY.—Much interest has been aroused by Charcot's investigations into Burq's system of metallotherapy. The latter's theory was that plates of metal placed upon the skin have the property of altering general and special sensation and cutaneous vascular supply. He found that a patient sensitive to one of the metals used—gold, silver, copper, iron, zinc, would not be to another. Burq also claimed that the metal to which a patient was susceptible, was the proper therapeutical agent to be employed in his case.

Charcot got results strikingly corroborative of the above. His patients were marked examples of aggravated hysteria or hystero-epilepsy; and with the metal for which they evinced a peculiar idiosyncrasy, administered *internally*, he succeeded, in

four patients experimented upon, in restoring or improving general sensation, increasing muscular power, and bringing back cutaneous circulation. The first case took gold and sodium, the second gold and zinc, the third gold, and the fourth was sensitive to copper, and took the hydrated binoxids, and a mineral water containing a copper salt.

Unfortunately M. Maguan and Dr. Westphal have been unable to obtain like results, and Charcot himself has met with some failures.—*London Medical Record.*

DIGITI MORTUI. (*N. Y. Medical Recorder*, May 11th, 1878.)—At a recent meeting of the New York Neurological Society, Dr. McBride reported a case of the above disease, with remarks upon its symptoms, course, pathology, and literature. The latter we give for those who may be interested in looking it up. It was first described by Brodie in his lectures on "Local Nervous Disorders," (pub.) 1837. Since then it has been referred to by Huston, 1836; Raymond, 1862, 1872, 1874; Nothnagel, 1866; Estlander, 1870; Fischer, 1875; and by Dr. McLane Hamilton, in the *N. Y. Medical Journal*, Oct. 1874.

The author considered the trouble to be a *vaso-motor* reflex, depending upon increased irritability; that it indicated a nervous system of great mobility, but, otherwise, was without significance. His treatment comprised the direct and induced currents, and alternate hot and cold douches.

DARK AND DARK GREEN URINE FROM EXTERNAL USE OF CARBOLIC ACID.—M. M. E. Kirmisson, in *La France Médicale*, describes a number of well-marked cases of dark and dark green colored urine, from the external use of carbolic acid. There seems to be no special danger in connection with this appearance. M. K. concludes, however, that as soon as the phenomenon is observed, the use of carbolic acid should be modified. The differential diagnosis between the dark urine from the use of carbolic acid, and the dark urine from certain hepatic troubles, is to be found in the general condition of the patient.

Translation.

ON CERTAIN SENSITIVE TROUBLES OF MESO-CEPHALIC ORIGIN.

By Dr. Couty (*Gazette Hebdomadaire*, Nos. 1, 3, 4, 1878).

(Translated from the French by Lafayette W. Case, M. D.)

We have studied in a former article (*Gaz. Hebdom.*, 1877, Nos. 30, 34, 36, 38) a variety of hemi-anæsthesia, qualified as *mesocephalic;* and we have studied this morbid form apart, the better to show the existence of a new type of hemi-anæsthesia, differing by its anatomical and symptomatological characters from the types already known—cerebral and medullary. It seems necessary to us to now show that other sensitive troubles, anæsthesic or hyperæsthesic, of variable and complex forms, may be produced by other lesions of the mesocephalon; and we shall see, moreover, that this second memoir completely confirms the deductions drawn from the facts contained in the former one.

I.—General Anœsthesia.

We have indicated (loc. cit., p. 570) cases sufficiently numerous of lesions of the central portions of the pons varolii, seated more or less forward, in the superior and inferior layers, not having brought on any sensitive trouble; from this we have concluded that the inter-crossing of the sensitive fibers in the pons varolii had no definite track, since whichever one of these median points of inter-crossing was destroyed, the sensitive functions remained intact, in consequence of a substitution. But other cases exist where lesions occupying the same median portions of the pons varolii have, on the contrary, determined considerable sensitive troubles, of *general anœsthesia;* we will report briefly a few of them.

Case I. (Josias, *Thesis* of 1851, case II.) Insane woman of Charenton; apoplectiform attack; afterwards, contractions of the muscles of the face; difficulty of pronunciation, but paralysis of the four limbs and *complete insensibility of both sides.*

Some hours after, possibility of movements of the limbs, and very obtuse sensation; later, asphyxia, death.

Autopsy.—Hemorrhagic spot in corpora striata; cerebral peduncles as if crushed and replaced by a mixture of blood and cerebral matter. If the pons varolii be cut, it is found replaced by a detritus of blood and nervous pulp, the effusion being equally pronounced to the right and left. Cerebellum and bulb intact.

The lesions have been less extensive in the following cases:

Case II. (Nunneley, *Union Méd.*, 1860, t. vii., p. 381.) Sixteen years; loss of senses; complete insensibility; pupils equal, contracted, insensible to light; paralysis incomplete of movements and of sensibility of the two sides of the body; head hot; elsewhere temperature natural. Death after seven hours.

Autopsy.—At the center of the pons varolii, but encroaching especially to the left side, a clot half the size of a walnut.

Case III. (Kirschberg, *Thesis* of 1835, case X.)—Loss of senses, intelligence, general sensibility abolished; paralysis of four limbs; pupils contracted; pulse hard and slow; face congested. Death fifteen hours after.

Autopsy.—In the center of the protuberance, hæmorrhage of the size of a small nut had made an irruption towards the cerebellar peduncles and in the fourth ventricle.

The thesis of Kirschberg contains two other cases of general anæsthesia; case III, seat, center of pons; case XI, right half of the pons and portion of inferior layers of the left half destroyed; and we might report others; that of Magnan, incomplete anæsthesia due to a hemorrhagic collection below the *processus cerebelli ad testes*, (*Soc. Anatom*, 1861); that of Cornil (*Soc. Anat.* 1860, p. 201); two others indicated by Longet (*Anat. et Phy. du Syst. nerv.*, t. i, p. 439), and also case I. of *Hayem's Memoir* on Basilary Emboli (*Archiv. de Phys.*, 1868, p 270), with a clot of one centimeter on a level with the origin of this artery, etc., etc.

... these cases, cases which it would be easy ... ment was paralyzed and comatose, so that the ... may be regarded not as the direct effect of ... conductors, but as a trouble dependent ... of the cerebral functions. To this ... in numerous cases reported in our first ... we believe may be joined most of the ... the patients had retained their sensi- ... although the paralysis or even the ... which clearly proves that these states, ... are not sufficient to produce anæsthesia. ... in citing other cases of lesions of the ... seat, and having determined also gen- ... of the complete absence of troubles of the ... functions of the perceptive organ. Such are

... Soc. *Anat.* 1847, p 448).—In Feb- ... half of the body became "griped" says ... and his limbs feebler; besides the patient ... In May, he entered the hospital for a ... diplopia, taste perfect, but general ... paralysis.

... becomes uncertain and finally impossible, ... moment the insensibility is complete and ... end of June.

... posterior inferior part of the pons, at a ... function with the cord, a hard kernel the ... to the left but invading a little, the right

... had been at the beginning alternate hemi- ... frequently connected as we have shown ... p 602) with mesocephalic hemi-anæsthesia, ... with general anæsthesia.

... insensibility, without intellectual trouble has been ... the cases of lesion of the pons reported by ... only the following:

... *Longet's Syst. Nerv.*, t. 1., p. 440.)

Woman; gait staggering as in drunkenness; then total loss of motility and sensibility. Excited; she felt nothing; placed on one side, she remained so until moved; she lost her sight completely without opacity of the corneas; she lost taste, hearing, smell, and life, in relation to external things; seemed extinct a month before her death.

Autopsy.—The posterior half of the mesocephalon has become scirrhous, lardaceous (unfortunately no exact localization).

We believe we should, on account of its symptomatological analogy, add to the preceding cases the following very clearly observed, and where the diagnosis, obstruction of the bulbar arteries, unfortunately not verified by an autopsy, has been made by a nervous pathologist of the value of M. Joffroy.

Case VI. (*Gaz. Méd.*, 1872, p. 494, and *Bulletin de la Société de Biologie.*) Man; 5th of March, right amblyopia; 20th of March, difficulty of swallowing without paralysis of movements; 22nd March, paralysis of left limbs, contraction of jaws; 24th March, incomplete left hemiplegia, drawing of patient to right; *cutaneous sensibility completely abolished* over the entire surface of the body; sense of taste normal; vision and hearing very much dulled on right side; lips, tongue immovable; difficulty of opening mouth and of swallowing; salivation; superior portion of face only movable; intelligence enfeebled; micturition involuntary; cardiac lesion. From the 1st to the 26th of April, anæsthesia disappeared; right eye and ear always feeble; left hemiplegia complete; right paresis without increase of temperature of limbs; paralysis. August 1st, notable amelioration, but always cold.

To this case of labio-glosso-laryngeal paralysis of apopletic form, as M. Joffroy has called it, we might join a very analogous case published in the *British Med. Journ.* and analyzed in Hayem's review (t. ix., p. 152); and also another of M. Hérard (*Union Médicale*, 1868), which is distinguished from the preceding ones by the absence of sensitive troubles.

Now how shall we make these cases where we see lesions of the pons, either median, central or medio-lateral, bring on general anæsthesia, agree with those reported in our former memoir, where lesions of the same points have not brought on any sensi-

tive trouble? Shall we be content by proving simply that lesions of the median portions of the mesocephalon sometimes entail loss of sensibility and sometimes leave it intact? No, for in spite of their contradictory appearance, these two groups of cases complete, in confirming each other. Given, cases of hemi-anæsthesia due to a lateral mesocephalic lesion of the opposite side, and cases of median lesion of the pons without anæsthesic trouble, we have concluded that the sensitive conductors from the face, and even some of those of the trunk, cross each other in the mesocephalon, but without following a fixed course, each point of the intercrossing being capable of being supplied by its unaffected neighbors. Now we understand perfectly that if the lesion of the median portions of the pons be too extensive, of itself, or by consecutive phenomena of compression, the sensitive fasciculi crossing each other are either all affected, or those left intact are insufficient; and then there follows anæsthesia, not hemiplegic, as in cases of lateral lesion, but bilateral, general; this anæsthesia will rarely be complete, more often imperfect, as in cases I, II and IV, or tardy and temporary, as in cases IV and VI.

General anæsthesia is then possible in certain cases of extensive lesion of the median portions of the pons and bulb; but it seems capable of existing also in certain cases of unilateral lesion of the prolonged cord. We will only cite the following: general anæsthesia of the body, but not of the face, with deafness produced by hemorrhagic effusion having destroyed the inferior surface of the cerebellum, and extending upon the lateral parts corresponding to the medulla oblongata and pons varolii (Ollivier, case LV, of the thesis of Prevost, 1868), diminution of the sensibility, at first bilateral, in both hands, then unilateral of the left side, produced by a cavity of the right half of the bulb, at a level with its middle part and of its posterior layers, back of the olive in the restiform body and the intermediary fasciculus (*Hallopean, Soc. de Biologie*, 1869, p. 171); general anæsthesia from hemorrhagic effusion in the right inferior cerebellar peduncle (*Nonat. Gaz. Hebdom*, 1861, p. 57). M. Vulpian has also obtained general anæsthesia from unilateral lesion of the bulb in some of his experiments upon the origin of the bulbar nerves, for example, in Experiment I. (*Mémoires de la Société Biologie*, 1861).

This trouble of the sensibility is also somewhat frequently noticed in the thesis of M. Gouguenheim (*Anevrysme des Artères du Cerveau* 1866) in the cases which have relation to the arteries of the mesocephalon; but one may conceive that a tumor as diffuse as an aneurism even when seated on a lateral artery, the vertebral, cannot be of great utility as regards pathogenesis.

The mechanism of these general anæsthesias from unilateral mesocephalic lesion, is easy to understand in the cases where, as in those of Ollivier and Hallopean, the conductors have been destroyed near the median line over a considerable extent; it is evident, indeed, that the sensitive fibers, after having crossed each other on the median line, remain mixed, confounded, on each side, over a space of greater or less extent. But there are other cases, that of Nonat, for example, where the general anæsthesia is caused from a lesion of the inferior cerebellar peduncle, a conducting fasciculus which we have shown by a case (*Gazette Hebdomadaire*, 1877, p. 410), may be completely destroyed without producing any sensitive trouble, from which it results that, in the cases analogous to that of Nonat, the general anæsthesia, not being the direct and constant effect of the lesion, should be explained either by a mediate compression of a neighboring organ, or by one of those disturbing actions from a distance, usually called irritative, of which the mechanism has quite recently been so well exposed by Brown-Séquard (*Archives de Physiologie*, 1877, p. 411, 415).

Without insisting further we may conclude that *general anæsthesia* is nearly always *produced by a median lesion of the pons and bulb* (protubero-bulbaire), and we pass to another form of mesocephalic anesthesia not less interesting.

II.—Alternate Hemi-anæsthesia.

We have described in our former memoir a variety of mesocephalic hemi-anæsthesia of one entire side, face and limbs; and produced by a lesion of the pons or of a peduncle of the opposite side, the lesion being upon their external fasciculi and sometimes in less complete cases of their posterior fasciculi. We have reported these cases separately the better to demonstrate the

existence of a mesocephalic type of hemi-anæsthesia, comparable as to localization of cutaneous sensitive troubles, with cerebral hemi-anæsthesia, and from these cases we have concluded that the sensitive fibers originating in the face intercross each other between the bulb and the pons. But let us suppose that the lesion of the pons, instead of being seated tolerably high up in the external fasciculi, be more extended in breadth, lower down, and that it invade the bulbar sensitive glands or their afferent fibers: then the anæsthesia will occupy the members and trunk of the opposite side; but in consequence of the lesion of the glands or bulbar sensitive nerves, it will occupy the face of the same side; the hemi-anæsthesia will be alternate, and this special form realized by the experimental physiologists (Vulpian, *Soc. de Biologie*, 1861, memoir cited; Lussana and Lemoigne, *Archives de Physiologie*, 1877, p. 382), has been observed in several pathological cases.

Case VII. (Carré, *Gazette Médicale*, 1834, p. 569). Sick seven years. Muscles of left side of face paralyzed; ocular, buccal, nasal and lingual mucous membrane of left side insensible when pricked with pen; skin of face sensitive on entire right side and to the left only on a level with and behind the auditory conduit; vision remains; audition enfeebled; buzzing in the left ear; smell and taste diminished on left side but not noticably so. The left side of the body is normal; the movements of the right side are incompletely paralyzed, and the sensibility there is almost extinct; speech is difficult. Later these symptoms become worse. Sudden death.

Autopsy. The left side of the annular protuberance affected in its entire thickness and considerably augmented in volume, and transformed into a black, lardaceous tissue; the nerves of the vicinity are more or less altered; the trifacial, the sixth pair, are confounded in the tumor; the facial, the acoustic, the glossopharyngeal, appear compressed and flattened. The cord and brain are intact.

Alternate hemi-anæsthesia has not been less clearly shown in the following cases.

Case VIII. (Brown-Séquard, *Jour. de Phys.*, v. i., p. 537, *Annam.*)—Twenty-eight years. Acute pain of right side of

face, then loss of senses; complete paralysis of left arm, incomplete of left leg; anæsthesia of left side of body; right facial paralysis; anæsthesia of right side of face and of the ear; inflammation of right ear at the end of several weeks; difficulty of deglutition and mastication; deviation of tongue to the right.

Autopsy.—Semi-cartilagnous fibrous tumor of right side of pons, extending to the place of origin of the fifth pair in the pons covering the origin of this nerve and the entire right side of the pons, descending below this origin as far as the inferior third of the medulla oblongata; the surface of the root of the middle cerebellar peduncle, the pons at its level, the right anterior cord in contact with the tumor, etc., are softened, etc., etc.

Case IX. (Brown-Séquard, *Journ. de Phys.*, t. vii, p 631). Considerable diminution of motion and sensibility of the left members and right face; right conjunctiva vascular; voluminous cyst of right side of pons.

There appears also to have been alternate hemi-anæsthesia in this other case borrowed from M. Gubler.

Case X. (Case XI, of the first memoir of M. Gubler, *Gaz. Hebdomadaire*, 1876, p 752). Thirty-four years. In February, 1876, paralysis of sensibility and motion of left face; a little later, complete paralysis of sensibility and motility in the limbs of right side; the left limbs also appear troubled but in less degree; a little contraction to the right; phonation and deglutition difficult. Death.

Autopsy.—Several fibro-plastic tumors, one of which, situated in the thickness of the pons to the left of the median furrow, has produced softening all around; two others exterior on the same side of the pons varolii.

These four cases suffice for proving the existence of an alternate hemi-anæsthesia of mesocephalic origin, quite comparable with the alternate hemiplegia so well studied by M. Gubler: Anæsthesia of one side of the body and of the face on the opposite, an anæsthesia not only of the skin but of mucous membranes also, of the eye, inside of cheek, nose, of taste, and above all of audition on the same side, but which may spare the skin on a level with, and especially back of the ear, that is to say beyond the territory of the trigeminal. It appears to us useless then, to report other

analogous cases, such as those indicated by Brown-Séquard, (*Journ. de Physiol.*, t. vii, p 307, 637); another more complete of Jodin, (*Journ. de Physiol. de Magendie*, 1826) with left hemiplegia and hemi-anæsthesia, complete deafness, paralysis of taste and smell; and finally one of Guillaume, where the course and topography of the anæsthesia were still more complex. (*Progrès Méd.* 1873, p 293.)

It will be remarked that all these cases except perhaps case IX, unfortunately very incomplete, have their point of departure in a neoplastic lesion, a tumor; perhaps we must conclude from this, that hemorrhagic effusions capable of determining this assemblage of symptons would be in an organ so important as the bulb, too extensive to be compatible with life, so that this symptom is only possible in lesions of a chronic course, as tumors. And the proof of the probability of this interpretation is that we shall find sudden lesions, but less diffuse, in still another form of mesocephalic anæsthesia still more limited, a veritable diminutive of the preceding; and we shall be able to draw from the preceding cases, anatomico-physiological deductions which can only be made after the study of this last form of mesocephalic anæsthesia.

III.—Limited Anœsthesias.

The preceding facts show that a lesion invading at the same time the pons and the sensitive nuclei of the bulb as in case VIII, or, in the pons, both of the external commissural fasciculi and the emergent fibers of the bulbar nuclei as in cases VII, IX, X, determines an alternate hemi-anæsthesia; but suppose the lesion less extensive, situated further back and above on a level with the floor, and then, the sensitive commissural fibers not being invaded, we have the following symptoms:

Case XI. (Heydenreich, *Soc. Anatom.*, 1875, p. 131).—B., 24 years, syphilis for three years; for three months, vomiting; right eye but little movable; nomonymous diplopia; right side of face paralyzed; tongue slightly deviated to the right, flexible, flabby on this side; speech embarrassed, hesitating; sight remains, bottom of eye intact; *less sensibility of the right side of*

the face, intact in limbs, feebleness of right arm and leg, violent head-aches.

Autopsy.—Tubercular meningitis; caseous tumor, size of large hazelnut had hollowed out a lodgement at the expense of the pons and the superior portion of the bulb, resting on the superior part of the deformed and non-recognizable fourth ventricle, encroaching slightly upon the cerebellum.

In this case, the lesion was limited to the level of the floor of the fourth ventricle. In the following, it appeared to have been carried rather upon the fibers of the trigeminal in their course through the pons:

Case XII. (Stiebel, *Med. Chi. Trans.*, 1863, t. xlvi). Eleven years; bronchitis. June 23rd, headache, nausea; 25th, cephalalgia of left side, left ptosis, right angle of mouth deviated, left pupil dilated without visual trouble, no paralysis of extremities; 29th, head turned to the right; *anæsthesia of left side of face*, constant cephalalgia; 30th, convulsions, death.

Autopsy.—Left cerebral peduncle at a level with the pons thickened and softened; it contains the opening of an abscess filled with pus, mixed with pulp-like cerebral substance. The abscess, perfectly circumscribed behind the pons, a point at the level of which is found the remains of a hemorrhagic clot, 90 lines in length, 40 in its greatest breadth; it leaves the origin of the sixth pair at a distance of one line from its internal limit.

The lesions seem to have been a little more diffuse in the following case:

Case XIII. (Stanley, cited by Brown-Séquard, *Journ. de Phys.*, t. ii., p. 130.) Cephalalgia, left hemiplegia of body, *left hemiplegia of face with corresponding loss of sensibility*, mucous membrane of left side of nose and left conjunctiva injected, hearing lost on left side, erysipelas frequent in the paralyzed portions of face.

Autopsy.—Tumor the size of a walnut in the left side of the pons, extending into the middle cerebellar peduncle at a level with the origin of the fifth and seventh pairs which it compresses.

Without reporting other cases more or less complete of bulbar lesions, having determined anæsthesia of the corresponding side

of the face, for example that of Baeltz (case XLIV. of the thesis of Hallopean), case VIII. of Gouguenheim, another case abridged by Brown-Séquard (*Journ. de Phys.*, t. vii., p. 307), a case of Cassy and Lorreyte (*Bull. de la Soc. Anat.*, 1874), we would remind the reader that experiments have for a long time shown the reality of this facial hemi-anesthesia by a unilateral lesion of the bulb of the corresponding side. If cauterization of the floor practiced by Cl. Bernard, but superficially, has not appeared to induce any serious trouble (*Syst. Nerv.*, t. i, p. 296), M. Vulpian (Leçons sur le Syst. Nerv., p. 511), and long before Magendie, have proved that this facial hemi-anæsthesia takes place after a transversal hemi-section of the bulb, and they have explained it rightly by a lesion of the descending root of the trigeminal; and Brown-Séquard, going further, has been able to determine facial anæsthesia in removing only the restiform body of the corresponding side (*Bull. de la Soc. de Biol.*, 1855, p. 337).

But the dissociation of symptoms may be still more complete; and the anæsthesia from mesocephalic lesion still more limited.

It is so in Hallopean's case XLVIII., borrowed from Gubler; in another case published by Bordier (*Gaz. des Hôp.*, 1866, p. 561), the patients presented with symptoms of labio-glosso-laryngeal paralysis, an anæsthesia very clearly limited to the velum palati, that is to say, to the glosso-pharyngeal.

In other cases, on the contrary, the anæsthesia has been limited to one sense—to the hearing.

Case XIV. (Voisin, *Soc. Anat.*, 1863, p. 486.)—Fifty-two years; epileptiform attack, then loss of knowledge. The next day some movements were possible, but the speech was confused; the tongue deviated to the right, the right side of the face paralyzed and the *hearing dull on this side.* The following days the intelligence returned completely. The limbs only simply paresic; but always a right facial hemiplegia, with *deafness of this side.* Later, pleurisy, death.

Autopsy.—Tumor at the level of the convergence of the basilar and vertebral arteries, constituted by a clot the size of a goose quill. If section be made of the pons on a line with the point of emergence of the facial, softening exactly confined to the right half, limited by the intact peduncular fibers, prolonged by a

slender point toward the anterior face, more widely toward the middle cerebellar peduncle and the fourth ventricle, without reaching its wall which appears intact. Total length, 25 millimeters; breadth, 15 millimeters.

From this case we may go to the following, reported by Brown-Séquard, unfortunately very incomplete:

Case XV. (Gairdner, *Journ. of Phys.*, vol. vii., p. 637.)—Difficulty of speech; left pupil dilated; imperfect vision (perhaps due to the pupillary dilatation) *and deafness.*

Autopsy.—Tumor the size of a pullet's egg in connection with the right cerebellar peduncle, the right half of the pons, of the bulb and of the cerebellum (that is to say evidently situated upon the posterior superior face of the pons and bulb).

These facts prove the importance of troubles of audition in mesocephalic lesions, an importance which however has been often noticed. It is thus that M. Lancereaux indicates the existence of auditory symptoms in a state of unique isolated sensitive derangement, as one of the frequent signs of obstruction of the arteries of this region (Lancereaux, thesis, 1862, p. 60), and to the preceding, may be also added numerous other cases of general paralysis, of ataxia, of sclerosis in patches, mentioned by Magnon (*Gaz. des Hôp.*, 1870), by Lionville (*Bull. de la Soc. de Biol.*, 1870), by Hayem (*Bull. de la Soc. de Biol. et Gaz. Méd.* 1876), by Pierret (*Revue Mensuelle*, 1877, No. 2), etc., etc.; cases in which one side of the face, one sense, the taste, the ear have become alone anæsthesic, often on one side only, as in the second case of Pierret, evidently as the result of a lesion also limited in the points of origin or in the mesocephalic track of the corresponding nerves.

If, then, sensitive troubles are lacking, as is known in the cases of systematic bulbar lesion, labio-glasso-laryngeal paralysis, descending sclerosis, etc., etc., it is seen that these troubles are, on the contrary, frequent in cases of more diffuse lesions, ramollissement, tumor or dissiminated sclerosis; they may affect forms the most various, and to sum up, anæsthesia produced by a lesion of the pons or bulb may be generalized, hemiplegic, alternate, or more limited, to one trigeminal, one glasso-pharyngeal, or one auditory nerve. But all these cases of alternate hemi-anæsthesia,

or of anæsthesia limited to one side of the face, to one sense, anæsthesias due to a unilateral lesion of the pons or bulb, admit of other more important deductions.

We have seen in cases VII, VIII, IX, X, XI, XII, XIII, the facial sensibility disappear on the side where either the origin of the trigeminal or its emergent fibers have been injured; exactly as in the experiments of Magendie, Vulpian, Brown-Séquard, Lussana and Lemoigne, on hemi-section of the bulb; ablation of the restiform body, etc. Now from these cases, where a lesion situated either in the point of origin, as in case XI, or along the course of its emergent fibers, as in cases VIII, XII, XIII, has determined not a diminution of sensibility of the whole face, but a complete and unilateral anæsthesia *in the side corresponding to the lesion*, we conclude that the fibers originating from the point of origin of the trigeminal do not cross each other in their intra-bulbar portion; their course is direct from the point of origin to the corresponding side.

Experiments (Cl. Bernard, Syst. Nerv., t. ii; Vulpian, Leçons sur le Système Nerveux) have proved the bulbar origin of the auditory fibers without indicating their course; from these cases where we see, as in cases VII, VIII, XI, XIII, the hearing affected on the same side as the face, or alone, but on one side only, corresponding to a unilateral lesion of the pons and bulb, as in Voisin's case, should we not conclude that the fibres springing from the point of origin of the auditory nerve have also a direct course and do not intercross?

Without denying the existence of very intimate relations between two sensitive points of the bulb, of the same nature, we believe we may affirm that, given the preceding facts, these relations, at least as regards the trigeminal and auditory, are not established, as has been admitted, by an intercrossing of the emergent fibers: these emergent fibers go directly from the point of origin to the corresponding organ, and their lesion determines a unilateral anæsthesia of the same side.

Now, are these sensitive nuclei put in relation with each other by direct commissural fasciculi, analagous with those of which M. Vulpian has established the existence for the facial (*Bul. de la Soc. de Biol.*, 1861, in the memoir cited)? We may conceive this

to be so, our experiments cannot enlighten us on this point; but it is sufficient for us to have established by facts this direct course of the sensitive fibers between the bulb and the face, a course which in our former memoir (*Gaz. Hebdom.*, 1877, p. 600) we had supposed to be demonstrated, intending to return to this point. And after having thus terminated the history, or rather the indication of certain forms of mesocephalic anæsthesia, we pass to another order of sensitive troubles not less curious; *mesocephalic hyperœsthesias.*

The hyperæsthesic sensitive troubles to which Brown-Séquard long since called special attention, if we refer to the numerous cases we have gone over, appear to us more frequent in the cases of mesocephalic lesions than in analogous lesions of the brain; and as with mesocephalic anæsthesias, they are also distinguished from hyperæsthesias of cerebral origin in that they may affect the most various forms.

IV.—General Hyperœsthesia.

Hyperæsthesia may be general as in the following cases which we hastily sum up.

Case XVI. (Gobert, cited by Brown-Séquard, *Journ. de Physiol.*, t. i., p. 526.) A fall at seven years of age; since then unsteady gait, cephalalgia, smell perfect, sight diminished, especially in right eye, hearing rather more sensitive; spontaneous pains in limbs, at first on right side; *sensibility exaggerated over whole body*; paralysis of right limbs, then of left; extremities cold, deglutition difficult; death.

Autopsy.—On the median line, level with the vermiform process and fourth ventricle, a cystic tumor of the size of a hen's egg, compressing the left lobe of the cerebellum, having burrowed a deep lodgement in the peduncle of the same side, in the interior of the ventricle as far as the tubercular quadrigemina slightly atrophied; pons deviated, etc.

The lesion and the symptoms were quite analogous in the following cases:

Case XVII. (Mignot, *Gaz. Hebdom.*, 1875, p. 827.) Incomplete amaurosis, deviation of the eyes, fixed occipital pain, *sharp*

pains in the limbs, exaggerated venereal desire, more exalted cutaneous sensibility.

Autopsy.—Hydatid cyst of cerebellum the size of an egg, incarcerated in the left lobe.

Case XVIII. (Laborde, *Soc. Anat.*, 1863, p. 343.) Fourteen years, staggering, tendency to fall backward, curvature of body to the right, left convergent strabismus, *lancinating erratic pains* in lower limbs, and *cutaneous hyperœsthesia*, vomiting, slight amblyopia.

Autopsy.—Tubercle the size of a walnut on the inferior surface of right lobe of cerebellum in the amygdala, compressing the origins of the pneumogastric and glosso-pharyngeals; a second tumor in the right half of the pons in its central portion.

The lesion appeared to have been still more limited, and in appearance still more limited to the cerebellum in the following case, unfortunately very incomplete, like the preceding, in an anatomical point of view.

Case XIX. (Andral, *Clinique*, t. iii., p. 716.) Pulmonary phthisis; rigidity of the head drawn back; limbs and senses unaffected, only *cutaneous hyperœsthesia*, on pressure and on motion; left side of face paralysed; conjunctiva red on this side.

Autopsy.—Tubercle the size of a hazelnut on the middle portion of the external face of the left lobe of the cerebellum.

These diverse observations and especially the last, would tend to lead us to regard general hyperæsthesia as a trouble of cerebellar origin; but in the first cases the cerebellar lesion was seated at a level with the fourth ventricle, more or less compressed, as shown by the autopsy; and given symptoms of direct facial hemiplegia, inflammation of the conjunctiva of this side, it is probable that even in Andral's case, the bulb, the origins of the facial, the trigeminal, were also interested. We are then lead to explain these cases of general hyperæsthesia, following a cerebellar lesion; not by this lesion itself, but by consecutive troubles of the pons; and we shall see that general hyperæsthesia may indeed be due to a lesion occupying solely the floor of the fourth ventricle towards the union of the pons and the bulb, the cerebellum remaining intact.

Case XX. (Sandberg analyzed in *Hayem's Review*, t. ix).—

Notable feebleness of certain muscles; oblique gait; passing paralysis of right arm ; abdominal pains, *cutaneous hyperæsthesia.*

Autopsy.—Pia mater thickened in certain points, especally towards the base ; hemorrhagic clot having destroyed the floor of the fourth ventricle with extravasation into its cavity.

Case XXI. (Extracted from thesis of Hallopean, case XXXV, p. 108).—Sixty-three years. July 5th, vomiting; impossibility of swallowing and of standing, then incomplete paralysis; intelligence intact. July 6th, he entered service of M. Proust, trembling of hands very marked ; patient staggers, totters, especially left side; *hyperæsthesia* of lower limbs. The next day, sudden death.

Autopsy.—Arteries especially in encephalon, atheromatous; left vertebral arterty rigid, obstructed one centemeter from its junction with the basilary, by a discolored, yellowish clot, one centimeter in length ; but leaving free the postero-inferior cerebellar which originates rather low down.

These pathological cases would perhaps be insufficient if we could not join to them experimental facts. Brown-Séquard has shown that section of the cerebellar peduncles, ablation of the restiform bodies, all lesions occupying only a level with the fourth ventricle, determine general hyperæsthesia (Brown-Séquard, *Bull. de la Soc. de Biol.*, 1855, p. 337); M. Vulpian has also obtained general hyperæsthesia in some of his experiments on the floor of the fourth ventricle (*Bull. de la Soc. de Biol.* 1861); and to sum up, in all cases of general hyperæsthesia cited above, there appears to have been always a lesion either direct or more often mediate and consecutive, of the floor of the fourth ventricle. We are then lead to conclude that this hyperæsthetic trouble with this generalized form is one of the symptoms of *lesions of this region of the floor of the bulb and pons varolii.*

It will also be remarked that, if in several of these cases, as in cases XVI, XVIII, XX, there has been staggering or curvature, a tendency to fall backward, etc., the real paralytic symptoms have been either lacking, as in cases XVII, XVIII, XIX, or very late, as in case XVI.

V.—*Hemi-hyperœsthesia.*

We will now analyze other cases, where the lesion, instead of being seated back of a level with the fourth ventricle, is situated higher up, in the antero-inferior layers of the pons; and with this difference in the location of the anatomical lesions we shall establish differences not less great in the sensitive or motor derangements. There will be hemiplegia, and not derangement of co-ordination, or general paralysis; there will be *hemi-hyperœsthesia*, and not general hyperesthesia. The concomitant hemiplegia has been most often alternate.

Case XXII. (Senac and Millard, *Gaz. Hebdom.*, 1856, p. 816).—March 18th, loss of knowledge, then hemiplegia of left limbs; right side of face and intelligence intact. The 20th, slight meandering of movements in left limbs, a little contracted; patient complains of *sharp pains* in paralyzed limbs; left forearm cannot be extended without sharp pain. The following days, amelioration, then new aggravation of symptoms, and death the 1st of April.

Autopsy.—Upon the inferior face of the annular protuberance to the left of the median line, a hemorrhagic clot the size of an almond had destroyed the pyramidal fasciculus to the extent of five millimeters, being prolonged toward the middle cerebellar peduncle.

We will only recapitulate the following cases:

Case XXIII. (Hillairet, *Soc. de Biol.*, 1860, p. 116).—Right facial paralysis; left limbs, sensibility rather exaggerated in left leg; pleurisy. Death.

Autopsy.—Central hemorrhagic clot, 2½ centimeters, had destroyed middle layer, and invaded inferior layer of pons.

Case XXIV. (Martineau, *Soc. Anatom.*, 1860, p. 311).—Former palpitations. July 7th, cephalalgia, creeping sensations on left half of body; incomplete hemiplegia of left limbs and right face; 8th, sensibility preserved and even exaggerated the slightest movement of *left* lower extremity causing the patient to cry out; later, pleurisy, then pericarditis. Death the 18th.

Autopsy.—Back of the tubercula quadrigemina, in the pons, sanguineous clot in the middle and lower layers, extending toward

the right middle cerebellar peduncle, about two centimeters in diameter; bulb and cerebellum intact.

Not to report other cases, unfortunately not followed by autopsies, and where the hemi-hyperæsthesia has also coincided with alternate hemiplegia, and with other symptoms surely of the pons; cases due to M. Gubler (case V of his first memoir), to Meynert (analyzed in *Hayem's Review*, t. iii., p. 62); we will cite other examples of hemi-hyperæsthesia, with direct hemiplegia.

Case XXV. (Proust, cited by Déchery, Thesis, 1870).—Slight paralysis of left face, then complete of limbs of same side; sensibility, instead of being diminished, increased in arm and leg. Insensibility of velum palati; paralysis of pharynx and tongue.

Autopsy.—Clot in superior extremity of left vertebral, distending the artery and prolonged into the postero-inferior cerebellar.

There was also direct hemiplegia in the following case of Abercrombie, a case where the hemi-hyperæsthesia, although only complained of subjectively, appeared none the less real.

Case XXVI. (Longet, *Syst. Nerv.*, t. i., p. 446.) Thirty-seven years. March 23rd, diminution of respiratory amplitude on right side of thorax; 25th, giddiness, numbness of entire right side, heaviness and creeping sensations of right limbs; 30th, right ptosis, uneasiness, stiffness in the arm and leg of same side. Death.

Autopsy.—Cavity the size of a large hazelnut, filled with a clot, burrowed partly in the pons, partly between it and the cerebellum, most upon the left side.

Finally, the form of the hemiplegia did not appear to have been noted in the following observation, and also in another of Huguier (*Soc. Anatom.*, 1829, p. 53).

Case XXVII. (Josias, Thesis, 1867, case I.) April 6th, apoplectiform attack, then left hemiplegia; tongue deviates to right; *sensibility, the state of which was investigated several times, appeared more acute on the side paralyzed.* Death the 23rd.

Autopsy.—Clot the size of a hazelnut, occupying right side of pons, near the anterior fasciculi, but somewhat distant from the bulb and the posterior fasciculi.

To sum up, hemi-hyperæsthesia is complained of by only one of

the patients and after diverse excitations; or there is produced spontaneously, as in cases XXII, XXIV, XXVI, creepings, lancinating pains in the paralyzed parts: this hemi-hyperæsthesia has occurred tardily, as in cases XXII, XXVI; it has then persisted until death, but apparently diminishing in certain cases; or it has disappeared completely, as in the case of M. Gubler; or it has given place to hemi-anæsthesia, as in the case of Meynert. This hemi-hyperæsthesia occupies all one side of the body, the side opposed to the mesocephalic lesion; which differentiates it, as shown by Brown-Séquard, from hyperæsthesia by medullary hemi-section. The cases are too incomplete to say anything regarding the condition of the face or of the special senses.

In an anatomical point of view, the hemi-hyperæsthesia has been produced by a hemorrhagic lesion, more rarely embolic; this lesion always occupying the pons, unilateral, or at least the most considerable upon one side.

This unilateral lesion occupies the middle and anterior layers of the pons, as Cases XXII, XXIII, XXIV, XXVII prove; there is then a very clearly defined anatomical difference between this hemi-hyperæsthesia and general hyperæsthesia, which is always produced, we have seen, by a lesion of postero-inferior portions of the mesocephalon, by a lesion of the fourth ventricle, either primitive or consecutive to a cerebellar lesion.

Comparison of the two cases, XXI and XXV, both of M. Proust, indicates very well this difference of location, since we see an obstruction of the left vertebral determine general hyperæsthesia when it is situated one centimeter from the basilary, (Case XXI); and hemi-hyperæsthesia (Case XXV) when it occupies the origin of the basilary artery itself.

Hemi-hyperæsthesia also has anatomical characters very different from those of hemi-anæsthesia. Hemi-anæsthesia has often been caused by tumors, and we have not found a case of hemi-hyperæsthesia of neoplastic origin. Hemi-anæsthesia, in the cases where it has been complete, has been produced by a lesion extending by preference towards the posterior portions, and especially invading always more or less the lateral portions, the external fasciculi of the pons; now, in hemi-hyperæsthesia the lesion occupies on the contrary the anterior and middle layers, and above all

this lesion always somewhat extensive, is central, median, internal and not lateral, as is expressly indicated in Cases XXII, XXIV, XXVI; the effusion extends toward the middle cerebellar peduncle and not toward the superior; it is situated to one side, within those external fasciculi, a lesion of which determines as we have shown in our first memoir, complete hemi-anæsthesia.

Brown-Séquard (*Journ. de Physiol.* t. i. p. 530, 760) has attributed this hemi-hyperæsthesia to an irritation of the gray matter of the pons. With Brown-Séquard, we admit in these cases an irritation; but is this irritation one of the gray matter? We have cited, in our first memoir, a large number of cases of median lesions of the pons, even extensive ones, not having brought on any sensitive derangement; we have reported above, other cases of lesions still more extensive, situated especially in the posterior layer of gray substance, and having brought on general anæsthesia, because they destroyed all the sensitive decussating region not leaving a place for substitution; now, we could not explain why lesions of the same nature, hemorrhagic, of the same gray matter, have determined in certain cases only, irritation with hyperæsthesia and, in others more numerous, negative or anæsthesic symptoms.

This first point being even admitted, from the fact that a unilateral irritation of a portion of the gray matter of the pons has determined a hyperæsthesia limited to the opposite side of the body, we should conclude that this gray substance has clearly localized functions; and would not this conclusion be in disaccord with the numerous cases in which we have shown the possibility of a substitution between the diverse regions of the gray matter of the pons, in that which regards the sensitive functions.

In presence of these facts, especially if we remember that the lesion in hemi-hyperæsthesia, a lesion of the pons, anterior, interior and median, has extended towards the lateral parts into the middle cerebellar peduncle towards these external fasciculi, the lesion of which, we have shown, produces complete hemi-anæsthesia, we shall be forced to attribute this opposite hemi-hyperæsthesia *to an irritation*, from a clot situated in contact with them, *of these same external white fasciculi*, sensitive conductors of the peduncle and pons.

When the effusion destroys these postero-external fasciculi, there is opposite hemi-anæsthesia; when the effusion, nearer the median line, does not affect these fasciculi except by inflammatory lesions, most often consecutive lesions of vicinity, there will be hemi-hyperæsthesia; and thus are explained the symptomatological particularities mentioned above; the hemi-hyperæsthesia has always been produced by a hemorrhagic lesion, never by a tumor, the course of which has been too slow; hemi-hyperæsthesia, most often, only occurs some days after the apoplexy, when the inflammatory irritation has had time to be produced; the hemi-hyperæsthesia may diminish or cease with the irritation; finally, it is accompanied or preceded by formication, sharp lancinating pains in the limbs, and even, as in the case of M. Gubler, with veritable trifacial neuralgia, with neuralgia pains in the opposite limbs, with inflammatory swelling of the foot. There would veritably be in these hemi-hyperæsthesias, as in peripheric neuralgias, an inflammation of a white sensitive fasciculus; only this fasciculus is commissural, myelencephalic; the neuritis is central; and thus this hemi-hyperæsthesia would enter into the class of neuralgias of central origin, a class much more numerous than is supposed, as M. Vulpian has quite recently shown. (Leç. sur les Mal. du Syst. Nerv., 1876, p. 4.)

We will now report two cases where the hyperæsthesia from an irritative lesion of the mesocephalon has been still more limited, confined to the face; these two cases should, moreover, be joined to the cases of facial hemi-anæsthesia collected above, as we have already compared hemi-anæsthesia and hemi-hyperæsthesia.

Case XXVIII. (Hallopean, *Arch. de Physiol.*, 1876, p. 795.) Serv. Millard, thirty-six years. Diostolic cardiac souffle. June 3rd, violent cephalalgia; 4th, incomplete left facial paralysis, with paresia of the adductor of right eye. The *sensibility seemed exaggerated in the paralyzed half of the face;* motility is enfeebled in right arm, this paresis being accompanied with a sensation of numbness; 6th, paralysis of left face and right limbs more complete; state of sensibility not noted; 8th, paralysis extends to the left leg, and is even more complete; 11th and 12th, dyspnœa. Death.

Autopsy.—Upon the floor of the fourth ventricle, to the left

of the median furrow, on a line with the *eminentia teres*, an ecchymosis two millimeters in diameter; superjacent to a rounded spot of softening. five millimeters in diameter, situated exactly at the place of origin of the facial abductor. The other parts of the encephalon healthy; obliteration of the extremity of the left vertebral by an embolus from the heart; the clot projecting into the basilar, and prolonged into the infero-posterior cerebellar.

In this case the facial hyperæsthesia occupied the side corresponding to the lesion, and there was a feeling of numbness in the arm of the opposite side. This case of hyperæsthesia then is comparable with the cases of alternate hemi-anæsthesia which we have collected above, and the sensitive troubles of the face should be attributed to the irritation, not as in the preceding cases, solely of the sensitive commissural fasciculi, but of the points of origin of the trigeminal or the peripheric fibers which lie in contact. There was also a lesion of the radical fibers of the trigeminal in one of the experiments of M. Vulpian upon the floor, where he proved hyperæsthesia of the ear of the same side.

In another case, reported by M. Laségue in his interesting analysis, the hyperæsthesia is still more remarkable from its course, seat, etc. Unfortunately no autopsy.

Case XXIX. (Bastian, *Arch. de Méd.*, 1876, p. 335).—Thirty years. Sharp pains in forehead and left limbs; paralysis at first of the left arm, and then general; face drawn to the right. Loss of hearing, of deglutition, of speech (evident signs of a mesocephalic lesion). After three weeks, voice and hearing return; sensibility absent in limbs of left side, as well as smell of same side; on the contrary, the *left face is hyperœsthesic.* The temperature is generally lowered on left side. There was afterward progressive diminution of the paralytic symptoms, sensitive and motor, of the left side.

We have found no other cases of facial hemi-hyperæsthesia from mesocephalic lesion; but it appears evident to us that more complete reseach would furnish several. Nor have we found a case where the hyperæsthesia instead of affecting the cutaneous sensibility, had affected one special sense only. We should remember, however, that in those of our cases where the anæsthesia, what ever its form, is accompanied by deafness, this deafness has

been preceded several times by buzzing in the ears, and even real pain; and symptoms of the same order are noted in several cases of sclerotic lesion, bringing on the deafness mentioned above, for example, in case II of M. Pierret already cited, etc. There is then an auditory hyperæsthesia of mesocephalic origin; and consequently it is possible that this symptom may be encountered as an isolated, sensitive trouble.

We terminate here this enumeration of sensitive troubles of mesocephalic origin, troubles, moreover, of which the greater part have already been indicated and studied by Brown-Séquard: we do not pretend to have made it complete and certainly other clinical forms may be realized; but it suffices us to have called attention to some well defined syndromes in the double point of view, anatomical and clinical; opposite hemi-anæsthesia, alternate hemi-anæsthesia, general anæsthesia, limited anæsthesia, general hyperæsthesia, hemi-hyperæsthesia, etc.

Although having insisted but little upon the anatomical localization of these sensitive troubles, waiting to collect and point out precisely these facts in the following conclusions, we have not feared to draw sometimes from a small number of cases important deductions; for unless admitting that the same lesion may determine different effects, for proving a constant relation, a law. it needs not numerous observations, but precise ones.

Unfortunately many of the cases that we have collected are very incomplete, and some, even those for example, where a lesion of the pons nearly median and of little extent has determined a slight hemi-anæsthesia, remain contradictory until new observations more precise permit us to either reject or interpret them; and in the mean time we must admit, that at the beginning of these somewhat extended researches upon mesocephalic sensitive troubles, we did not expect facts so completely comparable by their lesions and their symptoms. We did not expect to be able to arrive at conclusions certainly incomplete, but we believe them, exactly and sufficiently precise; and yet should we have only indicated the *desiderata*, this study would have seemed to us sufficiently useful.

(*a.*) To recapitulate, from the point of view of *the anatomical nature of the lesion*, and in order of frequency, the hemorrhagic

effusions have determined all the kinds of sensitive troubles enumerated above; tumors have produced only general *anæsthesia*, hemiplegic or limited; vascular obstructions have caused once general anæsthesia, tolerably frequent hyperæsthetic derangement. Finally, in rare cases variable sensitive symptoms, oftenest not well limited, have been produced by lesions of neighboring organs, aneurisms, abscesses, alteration of the membranes; and also diverse lesions of the cerebellum; this last organ not appearing to us to act upon the sensibility except in interesting the mesocephalon.

(*b.*) The seat of the lesion is especially *important: it is this which determines the form, the localization of the sensitive trouble.*

In no case has the lesion been limited to the bulb; nearly always *the pons*, the sensory perceptive organ (Vulpian, Longet), has been interested, alone or conjointly with a neighboring organ.

Sensitive troubles are perhaps more frequent in lesions of the posterior layers of the pons; but the situation of the lesion in a point more or less above, or more or less distant from the median line, is especially important.

An internal lesion of the pons, median, unilateral, bilateral, even extensive, whatever be its level, determines usually only motor symptoms; and it is only when this internal or median lesion occupies the posterior parts especially, and is very extensive in a vertical direction, that general anæsthesia is met with: if this median lesion, of slight extent, but of special nature, irritative, and often then consecutive to a cerebellar lesion, reach the floor of the fourth ventricle, there may be general hyperæsthesia.

A lesion of the external fasciculi of the pons, or of their peduncular prolongations, brings on opposite hemi-anæsthesia of face and limbs, the same external lesion seated a little lower, of the bulb and pons, or more diffuse, occupying nearly one side of the pons, determines alternate hemi-anæsthesia, face of same side, limbs of the opposite side; finally, there are some cases of unilateral, facial or auditory anæsthesia, from limited lesion of bulb and pons of the same side.

An intermediary lesion, often antero-lateral, located towards the middle cerebellar peduncle, extending towards the external fasciculi, without destroying them, produces opposite hemi-hyperæsthesia.

(*c.*) Troubles of the senses, inconstant and variable in our cases, which are very incomplete in this respect, affect especially the hearing, sometimes the taste, whithout it being possible to indicate their relations with such and such anatomico-symptomatological forms. They are often unilateral, and then occupy, according to the height of the lesion, the same side if the lesion is inferior, or the opposite side if it is situated higher up.

Alterations of the trigeminal, or paralysis of the muscles of accommodation, etc., explain certain exceptional cases of derangement of sight or smell.

(*d.*) Paralytic affections of the voluntary muscles have affected the most variable forms, general or bilateral paralysis, simple hemiplegia, or alternate, or ocular, etc., without it being possible to show a constant relation between the form of the motor paralysis or that of the sensory troubles; and thus alternate hemiplegia very frequently has coincided with all the modes of sensory troubles studied above.

(*e.*) The temperature has often been diminished in the anæsthetic parts, whether the anæsthesia be general, hemiplegic or alternate; the state of the temperature has been too rarely, too incompletely noted in hyperæsthesia to make any deductions therefrom.

These conclusions confirm, in many points, results already indicated by the experimentors or anatomists, Foville, Longet, Vulpian, Cl. Bernard, Brown-Séquard, Meynert, Charcot, etc.; and to sum up, we believe we can admit physiologically that the fibers lying in contact with the bulbar nuclei are direct; that other fibers furnished by all the bulbo-medullary nuclei of one side decussate by means of the median gray matter of the pons, with those of the opposite side, going to constitute an external commissural fasciculus of the peduncle and pons.

Medical News and Items.

THE PHONOGRAPH opens up a vista of medical possibilities delightful to contemplate. Who can fail to make the nice distinctions between every form of bronchial and pulmonary râle, percussion, succussion and friction sounds, surgical crepitus, fœtal and placental murmurs, and arterial and aneurismal bruit, when each can be produced at will, amplified to any desired extent, in the study, the amphitheater, the office and the hospital! The lecturer of the future will teach more effectually with this instrument than by the mouth. The phonograph will record the frequency and characteristics of respiratory and muscular movements, decide as to the age and sex of the fœtus in utero, and differentiate pneumonia from phthisis. It will reproduce the sob of hysteria, the sigh of melancholia, the singultus of collapse, the cry of the puerperal woman in the different stages of labor. It will interpret for the speechless infant, the moans and cries of tubercular meningitis, ear-ache and intestinal colic. It will furnish the ring of whooping-cough and the hack of the consumptive. It will be an expert in insanity, distinguishing between the laugh of the maniac and the drivel of the idiot. It will classify dysphasic derangements, such as ataxic, amnesic, paraphasic and akataphasic aphasia.

It will recount, in the voice and words of the patient, the agonies of neuralgia and renal calculus, and the horrors of delirium tremens. It will give the burden of the story of the old lady who recounts all the ills of her ancestors before proceeding to the era of her own. More than this, it will accomplish this feat in the ante-room, while the physician is supposed to be busying himself with his last patient.

Last but not least, it will simultaneously furnish to the medical philosopher, the grateful praises and promises of him who is convalescent from dangerous illness, together with the chilling accents in which, later, the doctor is told that he must wait for his remuneration till the butcher and the baker have been paid.

THE third annual session of the *Arkansas State Medical Society* convened in Adelaide Hall, in the city of Fort Smith, Wednesday morning, May 1st, 1878.

Dr. A. N. Carrigan, President, delivered the annual address. He congratulated the Society upon the favorable auspices that surrounded them at this meeting; spoke of its standing before the American Medical Association; referred to the late struggle before this body, of the success it had met with, and the good that had resulted to medical science throughout the State, by the interest awakened through the agitation caused by the rival effort for recognition.

He spoke of malarial influences throughout the State that would probably be relieved by proper hygienic measures, and for this object recommended the establishment of a Board of Health by the General Assembly of the State.

The session lasted two days, and a great number of interesting essays were read.

The officers for the ensuing year are: President—A. A. Horner, of Phillips County. Vice-Presidents—T. W. Hurley, of Benton County; W. H. Hawkins, of Little River County; J. S. Shibbley, of Logan County; Isaac Folsom, of Lonoke County. Secretary—R. G. Jennings. Assistant Secretary—L. P. Gibson. Treasurer—A. L. Breysacher. Librarian—J. H. Lenow.

Next place of meeting, Little Rock, the first Wednesday in May, 1879.

THE rise and progress of what is called the science of therapeutics is merely, I believe, a modern development of professional credulity.—W. LANDER LINDSAY, M. D., F. R. S. E., *Medical Times and Gazette, March* 16, 1878.

THE Alumni Association of the College of Physicians and Surgeons in the city of New York, offer for the following year a prize of ($500) five hundred dollars, open for competition to all alumni of the college. It will be awarded to the best medical essay submitted, if deemed sufficiently meritorious, upon any subject which the writer may select. The essay, in order to compete, must be based upon *original investigation.* Each essay must be marked with a device or motto, and accompanied by a sealed envelope, similarly marked, containing the name and address of the author. Essays must be submitted to the Prize Committee on or before Feb. 15th, 1879. They may be sent directly to any of the committee, at the college, care of the Secretary. The committee consists of Drs. Henry B. Sands, Wm. H. Draper and Frank E. Beckwith.

ONE thousand four hundred married women accompanied 10,827 British soldiers to the Madras Presidency in India, and produced 2,900 children, now living, not one of whom has had syphilis. This speaks favorably for the English plan of allowing a certain number of wives to accompany each regiment; as nearly 20 per cent. of the Indian troops suffer from venereal disease.

THE thirteenth annual report of the Chicago hospital for women and children, which has just made its appearance, is a gratifying exhibit of the work accomplished by this deserving charity. We observe eight typographical errors in the physician's report that occupies but little more than one page, and could wish that these had been corrected in a feminine postscript.

THIS is the last number of Volume XXXVI. The index will be mailed with the first number (July) of the next volume.

If any of our patrons, whose time expires this month, do not wish to continue their subscription, they may obtain the index by notifying us.

WE have to express our obligations to Prof. N. S. Davis of Chicago, for the report prepared by him and published in this number, of the proceedings of the Illinois State Medical Society.

ANNOUNCEMENTS FOR THE MONTH.

SOCIETY MEETINGS.

Chicago Medical Society—Mondays, June 10 and 24.

Chicago Society of Physicians and Surgeons—Mondays, June 3 and 17.

CLINICS.

MONDAY.

Eye and Ear Infirmary—2 to 4 p. m., by Prof. Holmes and Dr. Hotz—2 p. m., Prof. Jones.

Mercy Hospital—2 to 3 p. m. Surgical, by Prof. Andrews.

Rush Medical College—2:30 p. m. Dermatological and Venereal, by Dr. Hyde.

County Hospital—8 p. m. Necropsy, by Dr. Danforth.

Woman's Medical College—3 p. m. Surgical, by Prof. Owens.

TUESDAY.

County Hospital—1:30 p. m. Medical, by Prof. Lyman; 2:30 p. m. Surgical, by Prof. Parkes.

Mercy Hospital—2 p. m. Medical, by Prof. Hollister.

Eye and Ear Infirmary—2 p. m. Prof. Jones.

WEDNESDAY.

County Hospital—2 p. m. Gynecological, by Dr. Bridge. 3 p. m. Ophthalmological, by Dr. Montgomery.

Mercy Hospital—2 p. m. Eye and Ear, by Prof. Jones.

Rush Medical College—4 p. m. Diseases of the Chest, by Dr. E. Fletcher Ingals.

THURSDAY.

Mercy Hospital—2 p. m. Medical, by Prof. Davis.

Rush Medical College—1:30 p. m. Neurological, by Prof. Lyman.

Eye and Ear Infirmary—2 to 4 p. m. Operations by Prof. Holmes and Dr. Hotz.

FRIDAY.

Mercy Hospital—2 p. m. Medical, by Prof. Davis.

County Hospital—1:30 p. m. Medical, by Prof. Quine; 2:30 p. m., Surgical, by Prof. Powell.

Woman's Medical College—10 p. m. Ophthalmological, by Dr. Montgomery.

SATURDAY.

Rush Medical College—2 p. m. Surgical, Prof. Gunn.

Chicago Medical College—2 p. m. Surgical, by Prof. Andrews and Isham; 3 p. m., Diseases of the Chest, by Prof. Johnson.

Woman's Medical College—12 m. Gynecological, by Prof. Fitch; 3 p. m. Dermatological, Dr. Maynard.

Special Clinics daily, from 2 to 4 p. m., at the South Side Dispensary, and at the Centrl Free Dispensary.

For schedule of lectures at the colleges, apply to the college janitors.